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HOUSE & GARDEN

VOLUME XXV

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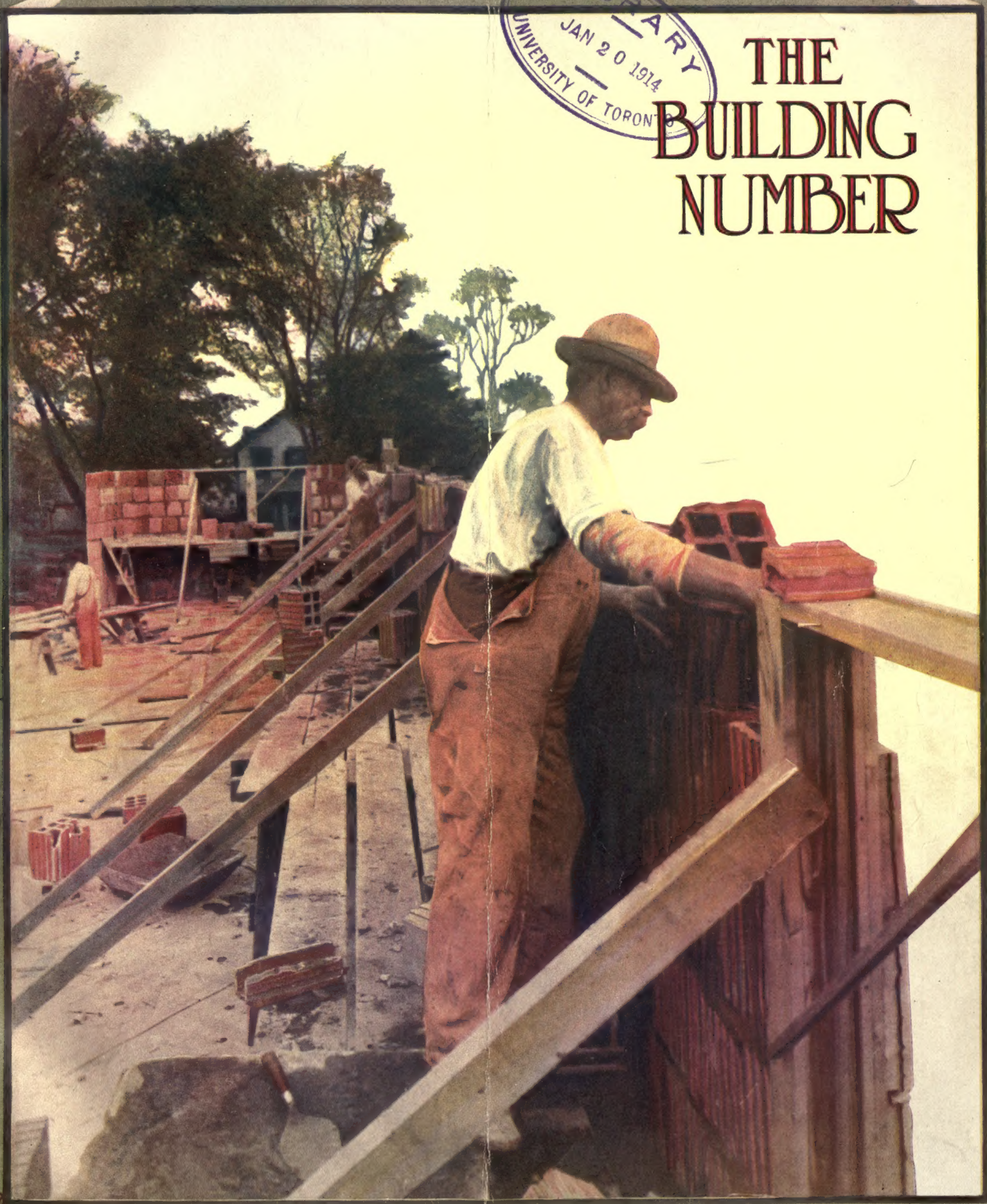
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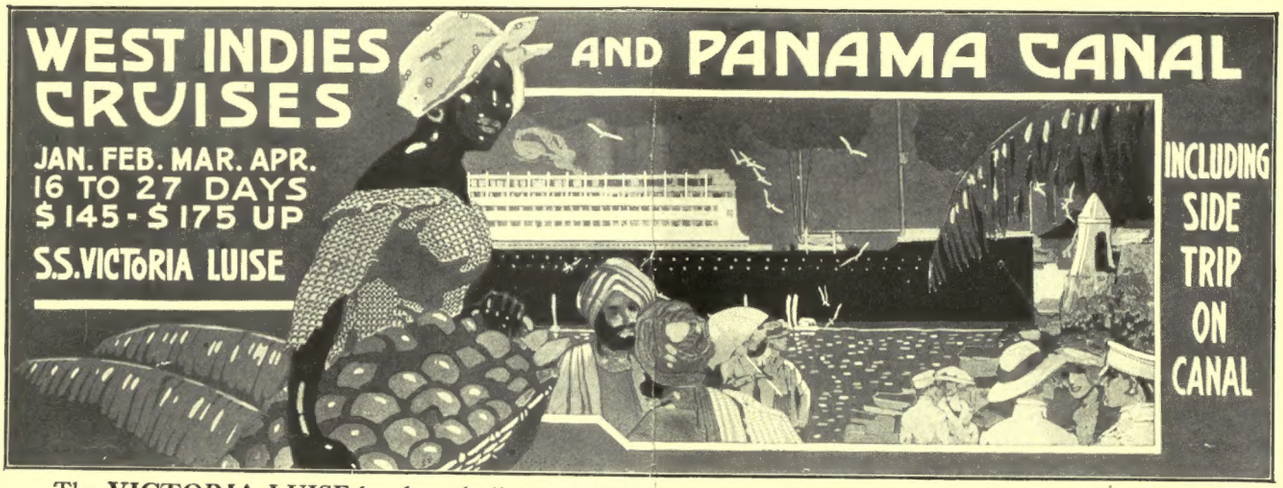


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HOUSE & GARDEN **Union Square, New York**

SOUTHERN GARDEN DEPARTMENT

Conducted by JULIA LESTER DILLON

The writer of this department will gladly answer inquiries from Southern readers in regard to their garden problems. Please enclose a self-addressed, stamped envelope if a prompt personal reply is desired.

Broad Leaved Evergreens

CLIMATIC conditions in the Southern States are particularly propitious in the matter of evergreens. It is not only possible for us to grow many of the varieties which are popular in the higher latitudes but there are many beautiful kinds which are perfectly hardy with us which cannot be grown out-of-doors elsewhere.

January planting is recommended for all the broad-leaved evergreens except the camellias and *Azalea indicas,* which must wait until the season of bloom is over and are best planted in early spring, the latter part of April or the first of May. The transplanting of these plants from the open ground is a difficult matter and in order to be done satisfactorily defoliation is necessary. This is especially true of the magnolias, photinias, ligustrums, cerasus, eleagnus, English laurel, evergreen oaks, and viburnums.

For the background of the shrubbery border nothing can be planted which gives better results and more beautiful effects than these broad-leaved evergreens. Where a screen is needed nothing can be chosen which will answer the double purpose of beauty and utility like masses of English laurel, neriums, or *Kalmia latifolia,* the American laurel, commonly known as calico bush.

For the extensive grounds and landscape effects the magnolias, *grandiflor* and *grandiflora gloriosa,* Satsuma oranges, the evergreen oaks, and the sweet-scented Osmanthus are good. The magnificient specimens of the beautiful old magnolias that grace the spacious lawns of the old Southern homes and line the avenues of some of our cities and most of the old cemeteries are wonderfully beautiful all the year. Individual specimens are often planted in the sidewalk grass plot and are most attractive in this situation as well as wherever large evergreen planting is desirable.

Of the smaller shrubs for mass and individual growth none is sweeter than the *Olea fragrans,* the tea olive, the most fragrant shrub we have. The dainty clusters of creamy white blossoms begin to show in November and for six months the garden is sweeter for their presence. They are also delightful in the rooms and are particularly desirable because they are of comparatively rapid growth.

For low growing masses no evergreen shrub is better than the *Abelia grandiflora*. It is a fragrant summer blooming shrub and is equally attractive in flower or out.

That most exquisite of all the *laurels, Kalmia latifolia,* grows so freely in our mountains and wildwoods that few gardens include it, but, blossoming in early spring and beautifully green all the year, it cannot be recommended too highly. Hard to transplant, if secured from a reliable nurseryman it is not hard to establish, and its beauty increases from year to year. Why not bring the glory of the Catskills in June and the wonder of the Cumberlands in April to gladden our city dooryards and make beautiful our shrubbery borders all over the Southland?

The English laurel is also one of the best of the broad-leaved evergreens. It is not hard to grow, and its leaves are beautiful at all times. There are no blossoms.

The rhododendrons may be planted in the sections from the latitude of Asheville to that of Atlanta, but farther south they are hard to grow and usually unsatisfactory.

The gardenias should be put out now and are not only hardy but eminently beautiful and satisfactory either for the border, for the mass, or for individual specimens. By selecting different varieties a long season of bloom may be secured.

The Neriums, or oleanders, are among the best of the evergreen plants. No garden should be without them. The season of bloom covers many months. They are almost immune from attacks of insect pests and grow steadily on through storm and sunshine, gaining grace and beauty from year to year. Through all sorts of treatment and no sort of treatment they go from glory to glory and are well worthy of the name of the very best of our garden friends.

For tropical effects, either in the background or foreground, a few plantings equal the yuccas. The comparatively recent plan of planting hedges of the variety known as the Spanish bayonet is not to be recommended. If they are to be used as hedge plants the lower growing kind, *Yucca filamentosa,* commonly known as bear grass, will be better. All of them are handsome when in flower. The stalks rise at least three feet above the needle-tipped leaves and the creamy bell-shaped blossoms cover them from stem to tip. They are very fragrant also, an additional attraction that, added to their rather unusual form, make them especially desirable.

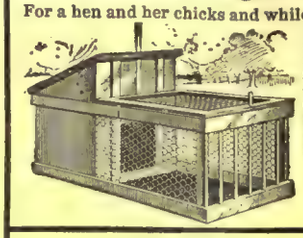
One could not wish to see a prettier picture than that made against a red brick wall or a dark evergreen background, by the gray-green yucca spikes crowned by the handsome clusters of sweet-scented blossoms, almost like a giant hyacinth stalk, as they ring out the summer chimes which call together the hummingbirds and butterflies and bees for their noonday convocations.

POULTRY DEPARTMENT

Hodgson Portable Poultry Houses

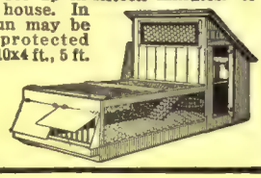
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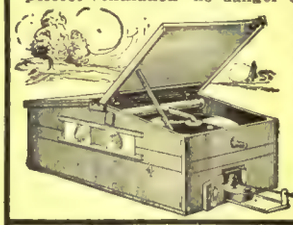


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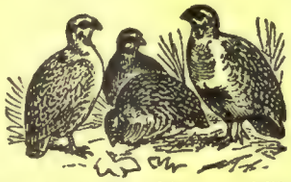
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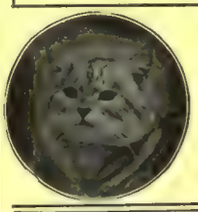
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THE HOUSE FURNISHER'S BULLETIN

New York is the market place of the world and into its shops, great and small, pour all the best products of the artisan, the decorator, and the furniture maker. All that goes toward making the home of good taste, may be purchased in this city. To give the readers advantage of the city's shops, the sharp eyes of experts are to be constantly employed in ferreting out for this column all that goes to make the house distinctive.

WICKER furniture, although usually associated with the summer house, is becoming more and more popular for all the year round use, and some of the most attractive pieces are made especially for rooms in which coziness and comfort are the main features. This is particularly true of a set consisting of chairs in several different shapes, a small settee, and a table of convenient size, in black wicker with cushions in a lovely shade of deep red. To carry out the general scheme the table has a cover of the red material exactly the size of the top, and over it is a heavy sheet of glass by way of protection. Similar sets are to be had in brown wicker with cushions of pretty figured materials, but the black and red combination, somehow, seems especially suitable for winter use, for there is cheer and solid comfort expressed in every piece of the set.

A NEW design in the always useful chafing dish is particularly intended for lobster newburg, but would be quite practical for most of the concoctions produced by the chafing dish cook. This dish is much smaller than usual, in diameter at least, but is considerably deeper, a feature that has advantages in cooking certain things. In place of the ordinary supporting frame the dish is held up by three lobsters that add considerably to its attractive appearance and announce its use in no uncertain way. It is made of burnished copper and comes in one size only.

THE richly colored dark bamboo that has been much used in the last year or two for baskets, trays, lamp bowls and other such articles is now made up into waste baskets with linings of red leather. The baskets are constructed of thin strips of the bamboo closely plaited, and may be had round or square in shape, and the leather not only serves as lining, but is brought over the top to form a substantial rim. These baskets are unusually handsome, for the red of the leather seems to combine admirably with the coloring of the bamboo, and gives an impression of richness and stability.

A NEWSPAPER rack is a useful addition to the furnishings of a library, particularly when one likes to keep papers on file for a time. Made in several different styles the rack is designed to hold newspapers that are folded once across the center, and has five sections for as many different papers. It is only about eight inches in depth, and the partitions between the sections are graduated in height, making it easy to select a paper from any section. The racks are made of mahogany, some being perfectly plain, others with an ornamental inlay, and while one style rests almost flat on the floor another is on a stand that brings the papers to the height of the average table.

DOWER chests for the bride that are also hall chests and make beautiful pieces of furniture for that particular apartment, are of mahogany, built on rather severe lines that make them look, however, like veritable antiques. They are massive in appearance and quite spacious enough to hold linen for any but the most extravagantly inclined bride. In addition to the space for linen there is a sliding tray that may be used for silver. It is divided into two compartments with a handle in the center like the ordinary silver basket, and while entirely separate from the chest it can be slid from end to end and need not be removed when things are taken out of the lower part.

FOR the person who is always in search of the unusual, the Russian dinner gong will serve as a novelty and a useful article as well. It is really a brass cup, just a bit crude in finish and of unusual thickness, larger at the top than at the bottom, and not unlike a loving cup in appearance except that it has only two handles. The gong is rung, or rather the necessary noise is produced, by striking the sides of the cup on the inside, with a pestle-like arrangement that is part of the outfit and is kept in the cup. A peculiar ringing sound results that is very piercing, but not at all unpleasant. The gongs are made in two sizes, one about two, the other six inches high.

FLOWER racks for finger bowls that are among the novelties in the way of table accessories are inexpensive and quite an improvement on the custom of putting a few blossoms in the bowl to float on top of the water. The holders are narrow curved bars of silver about three inches long, with a sort of hook at either end which fits over the edge of the finger bowl. Attached to the bar are five little loops, in each of which a single violet or some other small flower is placed. This brings the heads of the flowers just on a line with the edge of the bowl, and when they are in place the holder is scarcely noticeable. One or two of the holders are used in each finger bowl according to individual tastes.

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Construction of a Practical Poultry House

IN housing fowls in winter care should be taken to have your buildings comfortably warm and well ventilated, in such a manner as to prevent all direct drafts of air coming in contact with the fowls and at the same time do away with the moisture and frost collecting upon the walls and ceiling of the house. It is much better to have a cold, well ventilated house than to have one very warm and poorly ventilated, and your fowls will be much healthier and lay better in the former than in the latter. In building a house one should take into consideration the climatic conditions of the locality in which the house is intended to be built. A well drained soil should be selected and avoid building in a hollow where water will collect if you do not want trouble. Many are partial to the open-front-scratching style of building a poultry house, and while they are all right for certain locations, in this locality I have found the house described and illustrated to be more preferable. This house was planned and built by myself and has proven very satisfactory.

The house is built facing the south and is 15 feet wide, 50 feet long, 4½ feet high in back, 6 feet high in front and 7 feet high at the highest point. These dimensions and style of roof make a low house, which is a great deal warmer than one higher, yet it is plenty high enough to work in. Here is a point where many make a mistake in building poultry houses. They build them altogether high, when a low one will cost less and be so much warmer. When you build a poultry house don't make this mistake, but build them low, and then you have not got to heat all out doors. The frames and plates of my building are made of 2x4s and the sills and corner posts of 4x4s. The outside is boarded as tightly as possible with hemlock boards and a cheap grade of house siding is used for siding, with a good grade of tar paper between the boards and the siding. For roofing I used a three-ply Rubberoid paper, being put on in strips from front to back of the house. Five double sash windows occupy about one-fourth of the front and extend nearly the whole length of the front of the building, allowing the sun's rays to shine directly on the floor of the house. Sun is an excellent tonic for the fowls and should always be taken into consideration when constructing a poultry house. Four holes 2 feet square are cut near the top and between the windows. These are framed and a sash covered with muslin hinged to the frame. By opening the windows during the day these muslin frames form a very desirable method of ventilation, and practically do away with all moisture and frost collecting on the walls and ceiling of the building, and supply an abundance of pure air free from drafts.

The house is divided into five pens each 10x15 feet. The partitions are boarded up

for a distance of about 2 feet and wire netting used the rest of the way to the ceiling. The doors between each pen are 3 feet wide and are covered with wire netting. The dropping boards and nests occupy the back north end of the building. The dropping boards are 3 feet above the floor and 3½ feet wide, and extend the width of the pen, 10 feet. The perches are made of 2x2s, planed, and with the edges rounded. These are six inches from the dropping boards and are hinged to the back of the building, so that they can be raised and fastened when cleaning off the dropping boards. Under the dropping boards are 8 nests resting on a platform 1 foot below the dropping boards. A hinged door occupies the front of these and from which the eggs are gathered. This arrangement of roosts and nests gives the fowls use of the entire floor space and gives a darkened place for the hens to lay in. The water founts, shell and grain hoppers are placed at convenient places on the partition boards.

The floor of the house is of concrete and constructed as follows: The space up to the bottom of the sills is filled with pounded stone; on this is spread a good coat of a 6 to 1 mixture of fine gravel and cement, mixed somewhat thin, and enough to make a good smooth surface.

On this layer is placed a layer of good thick tar paper and over this and the last layer is a one-inch layer of cement (three parts fine sand and one part cement). This makes and ideal floor for a poultry house if you keep your house well ventilated. It is wind and rat-proof and the tar-paper keeps the moisture out. It is easily constructed, easily cleaned and, above all, will last a lifetime.

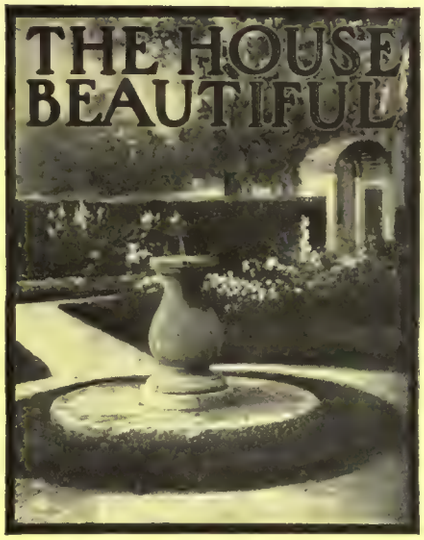
The yards are at the rear of the building and are 10 feet wide and about 200 feet long. In these are planted plum trees, which afford excellent shade for the fowls and are a profit to the owner. On to the main yards is another large yard surrounding a large apple orchard. Each pen is given this yard alternately each half day, which makes an excellent foraging place for the fowls.

Given a building of this kind with proper care and feeding, there is no trouble of keeping your fowls in the best of condition the year around.

Let me mention again not to build your hen-houses too high. If the shed style roof were used the building would have to be at the least three feet higher in front in order to secure the proper slope of roof, and thus not only requiring much more material, but making the inside much higher and thus much colder. It is a fact that the lower the inside of the hen-house can be built and leave plenty of space for the attendant to move about in conveniently, the easier it is to keep warmer and more comfortable and the result will be more eggs. The house will accommodate around 200 hens, which I have found to be about right.

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VOLUME XXV NUMBER 1

WILLIAM A. VOLLMER,
Managing Editor.

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The house shingled all over is an outgrowth of thoroughly American conditions. It is the result of a conscious, thoughtful attempt to solve the problem of American home life. Whether it may be superseded or not makes little difference, there still is ample opportunity for its use in rural and suburban districts, where it will continue to be an attractive dwelling. Bates & How, architects

House & Garden
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VOL. 25—NO. 1 JANUARY, 1914



What Style Shall We Choose for The New House

FACTORS THAT SHOULD INFLUENCE US IN DETERMINING THE KIND OF HOUSE TO BUILD—SITUATION DEMANDED BY THE MORE COMMON ARCHITECTURAL TYPES—A WORK ON AMERICAN ARCHITECTURE

BY ALLEN W. JACKSON

Photographs by Thomas Ellison, Harry Coutant and Others

WHILE individual predilection should have a voice in determining the style of the new house, it is not a sage guide unless balanced by an appreciation of its esoteric qualities so thorough, and subtile, that it carries with it an acute sense of that style's dependence on its geographical, historical and topographical environment. It has been said "that the tasteless man has no right to realize his ideas of a house in the presence of a great multitude of his fellow beings. It is an indecent exposure of his mind and should not be permitted."

In an old New England village with its white clapboarded houses of Colonial lineage set back of a double row of giant elms lining the wide street, with all the atmosphere of the place forming a congruous entirety, it would be a jarring note, if not a vulgar one, to intrude a plaster Mission bungalow, however well designed. The most callous will have a vague feeling that there is something wrong, and it will be noticeable to the most observant that not only does the new house appear less attractive than it ought, but that the old buildings, with their more quiet motives, have had the force of their appeal strangely weakened. The inhibitions which are part of an architectural environment are equally present in a topographical one. A bold landscape will demand a style of vigorous forms, a flat insipid district will call for more quiet motives, and delicate scale. The flimsy, jerry-built frame houses with which our suburbs are overrun are bad enough as they jostle each other in their cheap effrontery on their narrow lots, but one must see them on the rocky shores of a forest lake or in the clearing at the foot of some mountain to see all their pitiful meretriciousness stand revealed.

We must never, then, in our own minds, divorce the house from its site; and even if one has always had his heart set on a Colonial house, if the conditions are not right he must be adamant. It is hardly necessary to say that the districts in which the various styles had their birth were perfectly suited to them. The Swiss châlet can nowhere look so exactly right with its bold, vigorous outlines as it does among the rugged mountains. The Tudor and Georgian work is never so inevitable as when surrounded by the swelling meadows and umbrageous copses, and the same is true for all the others.

Let us now run over the historic styles that practically we have at our disposal. For our purpose we may take the available styles for our house to be: Colonial, in both wood and masonry, as we find it in different sections of the country; the

English work, as we have it in half timber, in cement, and for more important work in the Tudor style—the English Georgian is so closely allied to our Colonial, of which it was the parent, that the distinction is largely technical and one unnecessary for us to make here—the Spanish Mission, and the more exotic Italian type.

We might add to these the nondescript house in brick or stone found mostly in the Middle West and which refuses to be catalogued, and that other free lance—the shingled all over country house. We have other styles represented, of course—all that were ever executed on the surface of the patient earth—but they are sports and must be content to wait for the Architectural Dictionary for their write up.

To get down to cases, let us consider under what circumstances each style may be fittingly used. The Colonial work either in wood or brick is seldom out of place in the suburbs of our cities or the country districts immediately surrounding them. This is particularly true of New England and along the Atlantic seaboard, whether we follow the especial modification indigenous to a given district or are more free and less archaeological in our work. This is, if we wish to breed true to type we will in the South introduce the typical features of that work, with its slender round or "square" two-storied columns with second floor balconies as we see them in the Carolinas, or without the balconies as at Mt. Vernon. In Pennsylvania to merge ourselves in our surroundings we should follow the lead of the old Dutch work with its use of stone for walls, and squat gambrel roofs with flaring skirts at the eaves; or we may follow the more Georgian character of the more stately work in masonry. Coming North to the vicinity of New York City, we shall find that phase chiefly seen nowadays on Long Island with its wide shingles and simple finish. In New England the class of work changes again, the difference in feeling can be traced largely to the greater use of wood in construction, the result being those famous houses now best seen in such cities as Salem, Portsmouth and the environs of Boston, although examples are to be found everywhere throughout this group of States.



The Tudor style in brick is fitted only for the more pretentious place and required large lands after the fashion of the English estates, each a park in itself



The Anglo-Saxons have created a house breathing homelikeness. The plaster form of the English cottage is very suitable for many situations in America. Here is a good example of a house properly fitted to its environment and worked out to express the proper feeling. Algernon Bell, architect.



The Italian style needs a careful and thorough knowledge of its requirements, and it should not be used unless thoroughly consistent inside and out. Louis Boynton, architect

We see, then, that there are several subdivisions of this style, and while a purist might insist on a new house being built in exact accordance with the work of the district, there will be in the minds of most people no sense of shock if work having the characteristics of another section be employed. Neither will there be any danger in a certain freedom of motives and treatment of detail for which there is no existing precedent at all. There is, however, nothing in architecture design that requires more knowledge and architectural acumen than to produce a work which is palpably in a given style, redolent of it, and yet when examined piecemeal, which is found to have none of the standardized, hackneyed motives about it. This is the highest form of architectural skill and displays a profound sense of the essence and spirit of the style, of what is fundamental. A knowledge of architectural archaeology is useless here;

it is the parting of knowledge and genius. It is in this fresh embodying of the old spirit that our best work to-day is being done; and as an example of the converse of this, the bad work of the Victorian age was largely due to a lack of just this complete and thorough knowledge of essentials. A knowledge of Gothic work that stopped at the discovery that all Gothic churches had buttresses, gargoyles and pointed headed openings, without going one step further and finding out *why*, was what produced the "carpenter Gothic" and other crudities of the middle of the last century.

That the general architectural knowledge of that time was not more thorough may be excused when we find their great teacher Ruskin stating gravely that Gothic openings were pointed because that was the shape Nature gave the leaves!

But to return to our discussion, taking up the other historical styles, let us look a moment at the English work. This is no less our style than the other, it is ethnic and sympathetic, as the houses our ancestors lived in are bound to be.

The half timber work as originally done is not structually well suited to our needs or climate, but we may take advantage of modern building devices to bolster up these structural delinquencies.

The style must be used with discretion, for it is so very strong in decorative interest that it must be held firmly in check and handled with much restraint. It has the great virtue of giving to the plan and elevation the greatest possible freedom and flexibility. The convention of symmetry that so thwarted us at every turn in our Colonial work annoys us no longer.



Some of the so-called Middle Western type houses show careful planning and an appreciation of the neighborhood's requirements



We have modified the half-timber house of England since our structural requirements are different. But still the type is strong in interest and is free from the restrictions of symmetry found in other styles. Lawrence Visscher Boyd, architect



The Colonial house of this sort is suited to most of our modern suburbs. Situation and house alike duplicate the appearance of the Colonial village

This work in skillful hands and placed in surroundings at all comparable to those at its birth, not forgetting the setting of gardens, lawns, walls, etc., gives us as a result the most homelike, delightfully informal, and interesting result possible. The best examples of an Anglo-Saxon home are those rambling, half-timbered old houses, which are to be found in the old English villages. The nearer we can approach to them in feeling and essence the more nearly shall we approach an ideal of a house.

We must not make the mistake particularly unfortunate with work of as strong individuality as this, of placing it in a district which is itself strongly individual and already committed to some other method. While we must keep in step with our neighborhood, this does not mean that we may only build of half timber in a half timber village, for it will go excellently well wherever the locality is without strong markings of its own.

In the matter of these two styles, the Colonial and English, we find ourselves confronted anew by our old friends Classicism and Romanticism. We find them on opposite sides in all the arts and the choice of whose banner we shall follow is here, as always, a matter of individual temperament.

The plaster, or cement, or stucco house, whichever we choose to call it, following English lines, is in very much the same case as the half one. It is only less aggressive and less exacting as to its surroundings.

The Tudor adaptation is

(*Continued on page 71*)



A group of American architects has perfected the long, low house of no named style, but seemingly growing from its site. Chas. A. Platt, architect



An adaptation of the English plaster cottage. James Purdon, architect



American farmhouse design in permanent construction
Frank A. Bourne, architect



A modern Colonial type perfectly fitted to its situation
J. Lovell Little, Jr., architect

Seven Homes of Individuality



A house practical, livable and attractive for a suburban lot
Frank C. Brown, architect



An English treatment in entire harmony. Carrere & Hastings, architects



Half-timber modified to our needs, loses no charm. Mann & MacNeille, architects

Many Inventions for the Home Builder

THE DEVICES WHICH GO FAR TOWARD SAVING LABOR AND TIME IN HOUSEKEEPING AND ADD MATERIALLY TO THE COMFORT AND CONVENIENCE OF THE HOME

BY E. J. GOODHUE

THERE have been many inventions which have grown out of the elaboration of buildings and the additional needs and luxuries of modern buildings, and many of these devices apply specifically to the home. Strangely enough, they are not generally known to the prospective housebuilder.

Brief mention of some of these inventions might begin with the window. It is time now to forget the old prejudice against casement windows. There is no architect of reputation but speaks for them. They assist in design, they make the house homelike, and give a better ventilation than other sash. The objections of additional difficulty in keeping them clean has been removed by the metal leading and metal casement sash. The leads are flat and the window can be cleaned with as little labor as of a single pane. Such a window is perfectly tight against all weather, and an efficient burglar-proof lock may be used. Any casement window of good construction is serviceable if placed as single sash not over 18 inches wide and arranged in groups with mullions between and transom sash above. These casement arrangements as used in old English houses result in an attractive appearance.



The lever on the inside of the screen, when moved either to the right or the left, opens or closes the window without interfering with the screen

Opening and closing devices have been perfected so that a bar connected with the casement can operate by simply moving a small projecting handle and the window can be operated without moving the screen. A like device has been patented and operates on outside shutters. A little crank is turned and the shutter is closed or opened—a great convenience on a rainy night. It is especially valuable as an improvement over the old turn-buckle, since it automatically locks the shutter and keeps it flat against the house in all weather.



A useful Venetian blind that is both shade and awning gives ventilation without letting in the rain

The attractiveness of casement windows has been increased by the development of the leaded glass industry. Various designs and units of leaded glass may be furnished to be set in with little difficulty by the ordinary workman, so that antique effects may be reproduced at little cost or attractive designs made.

We spoke of screens; a most efficient screen operates on a spring roller as a shade. The whole screen is contained in a metal sleeve that fits along the sill and becomes apparently part of it. When the screen is not in use, it is rolled back out of sight.

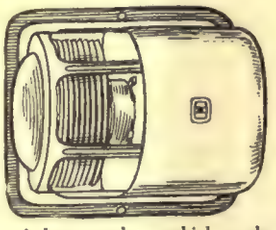
Houses in a sea-shore location, or unprotected by trees, find some form of Venetian blinds a necessity. These have been improved so that they combine the functions of awning and blind, and may be rolled up as an awning.

After windows come doors in the inventor's attention, and various interesting devices have been patented. There is a door-checking hinge, which is of considerable value in butler's pantry and dining-room swinging doors, and should be a consideration at the time the house is being planned, for it hangs a swinging door, and mechanism placed beneath a brass plate in the floor operates to check the door, preventing it from slamming back behind the individual. For the dining-room or pantry door, too, a door-holder is prepared. A small socket of brass is fastened to the door, and simply a pressure of the foot lets down a rubber-tipped upright which holds the door open. When there is any moving or sweeping to be done, this simple device of holding the door open is a great assistant. It does not require to be operated by the hands, a pressure of the foot releases the rod and permits the door to swing closed.



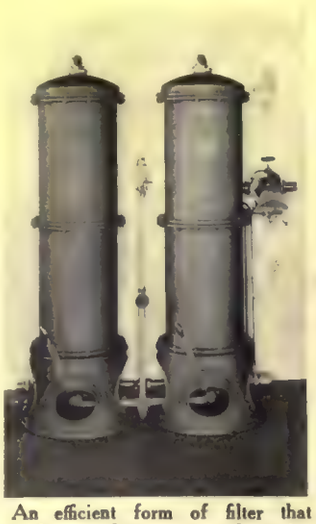
The thermostat

Within the household there are many doors to rooms, storage closets and cabinets that should be kept locked. Some need to be taken care of by the domestics, but others need not; therefore, it is desirable to have many different patterns of locks. But it is a burden to carry a great, bulky mass of keys. The solution to this problem is a new cylinder lock of most modern design, which can be set for a number of different keys, but is controlled by but a single master key.

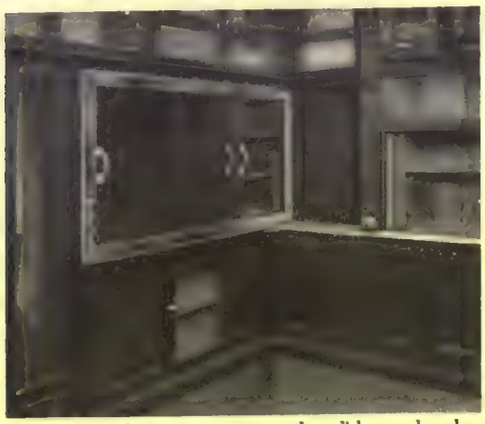


A heat regulator which works by the expansion of a volatile liquid and maintains a stated temperature

A built-in wardrobe is often a desirable thing for the old house as well as the new, and can be put in at any time. But when



An efficient form of filter that cleanses the water at the point where it enters the house



The built-in plate warmer assures hot dishes and makes it unnecessary for them to be sent from the pantry

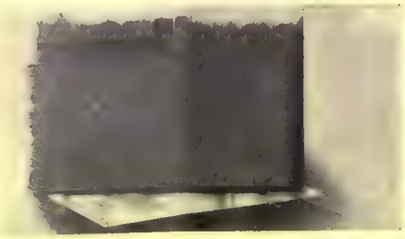
planned with the building such an arrangement as that shown above may be installed. A sliding steel bar separates the coat-hangers and the clothes occupy the smallest amount of space. The rod supporting the clothes slides out into the room, so that the clothes may be easily reached and removed from the carrier.

There are carpenter built-in conveniences, which, though not exactly inventions, are mentionable here. For instance, there are the various uses of the dumbwaiter. A small one may be put in a shaft running along by the flue for the use of carrying wood from the cellar to the fireplace. It can easily be operated by hand, and if an invisible hinge is used its opening is not discovered.

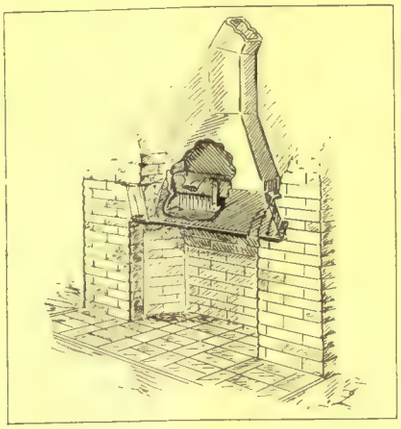
Purchasable to be built in are various medicine cabinets planned to contain just the right space for the family medicine supply. They are built of steel and equipped with



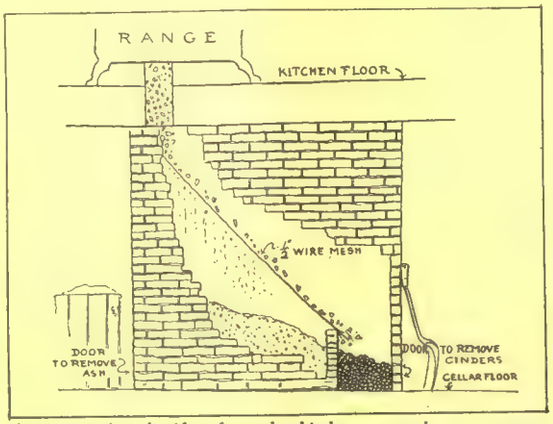
The house telephone placed at the bedside is an incalculable boon. It is especially valuable for the invalid



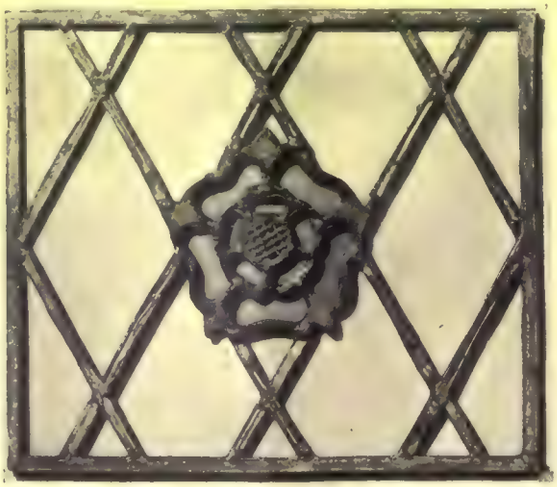
This floor plate is the only evidence of a door-checking device to prevent slamming of pantry or dining-room doors



To prevent smoke scientific fire throat is purchasable; it also keeps draft out of the room



An automatic ash sifter from the kitchen range is an economy and makes it easy to carry out ashes without spreading dust



One of the designs of leaded glass which may be purchased for casement windows or to reproduce the leaded glass of other days; sections may be had for all sorts of windows



A convenience to almost every house is a built-in wardrobe equipped with a hanging device that keeps the clothes in condition and makes them easy to get at

shaving mirrors and add considerably to the attractiveness of the bathroom, as they are set flush with the wall.

Electricity is constantly adding new helps in the home. The electric plate-warmer is one. Much of the success of a dinner and much of the tastiness of the food depends on the warmth of the plates. This plate-warmer is built-in in the pantry and the plates may be kept warm for the arrival of the food; they do not need to be sent to the kitchen at all in this case, and thus are saved the chance of breakage. The plate-warmer consists of a compartment electrically connected, so that the turning on of the current produces a sufficient heat to keep the plates comfortably hot, but will not crack them. Another electric help is the house telephone. It saves numberless steps and keeps the mistress in touch with all parts of the house.



Portable lamps are now capable of supplying light by the indirect method, casting it upon the ceiling for general illumination

The fireplace is really the center of home life in suburban or rural districts. Indeed, it is part of the joy of country living to have a log fire burning. This is rarely satisfactory in the city; sometimes not very satisfactory in the country. To remedy some of the drawbacks of the open fireplace, various inventions have been made of late. One is the improved fireplace throat and damper. There are various patent devices which are planned to be built in with the chimney. An iron throat is connected with a specially devised flue and its dimensions are scientifically calculated so that there is no possibility of the chimney smoking. The damper connection can be regulated so that it works under all sorts of weather conditions. One good feature of this fireplace equipment is that the annoyance of draft along the floors when the fire is not lighted is completely done away with by a simple method of closing the fireplace completely. Such modern and improved construction is not restricted to new houses, because with a little trouble it may be put in the chimney breast of a house already built without causing much new construction.

Another drawback to some fireplaces is the danger of their causing fires. If left for a moment sparks are apt to jump out and ignite the floors and rugs. It seems strange that it has taken a long while to develop an efficient fire screen that will not be forgotten by the most careless person. This has been well taken care of in the rolling fire screen. Just at the top of the fireplace opening a brass shield is put extending slightly beyond the opening on either side. This is of attractive finish and inconspicuous. Within this brass case a fine screen is rolled on a spring roller as is a shade. A cord at the side of the fireplace permits the fire screen to be lowered and a pull withdraws it from sight. This rolling fire screen occupies such a small space and is such a practical arrangement and such a convenient one that it will be much appreciated, since it does away with the clattering screens that are always in the way.

(*Continued on page* 69)

A Small Enduring House of Moderate Cost

A STUCCO AND TILE DWELLING WHERE ALL THE REQUIREMENTS OF THE OWNER'S FAMILY ARE SUCCESSFULLY PROVIDED FOR IN LIMITED SPACE—SOLVING THE PROBLEM OF ROOM ARRANGEMENT

BY L. H. BLEY

ONE of the perplexing problems for the architect of to-day, and a topic on which much has been written, is the building of an inexpensive yet durable home for the man of moderate means. Such a house should be medium in size yet give the proper distribution of space so that the rooms are proportionate in size and large enough to accommodate the owner and his family for whom the house is designed.



The house is designed along simple lines, the broad sweep of the stained shingle roof being especially in keeping with the attractive character of the surroundings. L. H. Bley, architect

An interesting, practical, as well as inexpensive house was built in the little western New York town of Hamburg, situated on the Idlewood River, at a cost of $4,200. It is located on the west side of a main road, some distance back from the street and practically in the center of an old apple orchard, giving ample opportunity to embellish the front lawn with a suitable planting of trees and shrubs, which, together with the weather-beaten red brick walk, give a harmonious and pleasing appearance.

The house is designed along simple lines and no attempt has been made to accent any part of the building except the front entrance, which is dignified by a fitting architectural treatment. The hood has a projection of about four feet and is supported on simple but graceful brackets. The stucco work of the gable is given a touch of appropriate color by the judicious use of stone inlay.

From a wide footing course to the roof, the walls were built of ten-inch and eight-inch hard-burned building tile and plastered on the outside with two coats of plaster, the last coat floated to a somewhat smooth but sanded surface. These walls were furred on the inside with two-inch by two-inch furring strips, thus providing three air spaces, two in the tile and one between the tile and the

plaster. This well-ventilated wall makes the house exceptionally warm in winter and cool in summer, and dry at all times.

The wide overhang of the roof with its exposed rafters and red-stained shingles is simplicity in itself and pleasing to the eye.

In a small plan where servants are done away with, the living-room should be the largest room and the hall reduced to the minimum. In this plan the hall and living-room are thrown together yet kept separate in appearance by a wide wooden beam in the ceiling, which gives individuality to each and adds much valuable space without sacrificing the comforts of the home.

A suburban living-room without a fireplace would be a sad mistake, and in this plan a simple red brick fireplace is located in the end of the room. Brick corbels support the plain oak shelf.

The living-room is located so that there is an east, south and west exposure, giving plenty of light and desirable sunshine.

From the French doors at the side of the living-room one enters on a screened porch where the owner can enjoy the best outlook, sunshine and breeze. In the winter, sash replace the screens and the open summer porch is transformed into a sun-parlor or conservatory.

As extreme size is not essential to the dining-room for a small family, a room thirteen feet by fifteen feet, giving a seating capacity for a dozen persons is large enough. This room opens directly from the living-room and is wainscoted four feet six inches high with plain battened panels and capped with a neat plate rail. Simple china cabinets with leaded glass doors to the height of the wainscoting fill the end of the room.

The entire first floor except the kitchen and rear grade entrance, which is finished with yellow pine, is trimmed with clear chestnut and finished with wax. The second floor is finished in white except the doors, which were stained mahogany. The oak floors were laid with white and red oak, giving a pleasing color.



The rooms are airy and well lighted and, considering the size of the house, provide a large amount of space



Although the general treatment is essentially simple, the entrance comes in for special attention with its dignified lines

As the pantry was eliminated in this plan, the kitchen connection is direct from the dining-room. This kitchen is ten by fifteen feet, ample in size to accommodate the cases and the required paraphernalia and at the same time affords sufficient freeway for the cook.

Another screened porch is provided from the kitchen, which answers at times for a breakfast-porch, and provides better ventilation during the warm weather. A rain-water cistern was built underneath this porch.

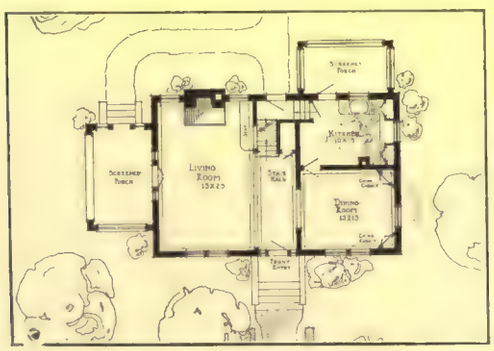
The basement contains the laundry, storage space, fruit-room and furnace room, leaving the upper floors free for the purposes to which they are best suited.

Two large, well-lighted and ventilated bedrooms of about equal size are arranged on the street front of the house, with a closet off each room and a linen closet from the hall between them. Two other rooms of fair size are located on the opposite corners and all open directly from the second floor hall, which is lighted from the window on the stair landing.

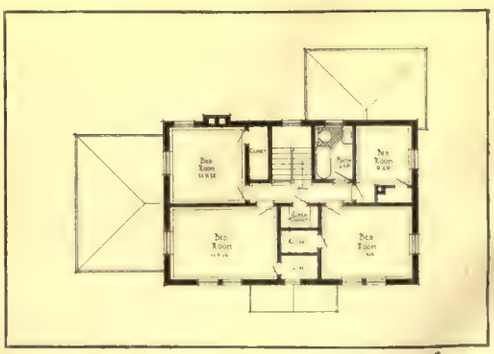
The bathroom is conveniently located to the rooms and in proper relation to the plumbing in the balance of the house, thus reducing the cost of installation and upkeep to a minimum. It is wainscoted five feet high with cement and blocked off like tile and enameled. The hot water system of heating is used throughout the house.

All of the walls and ceilings in the house were painted with a cold-water paint.

Considering the small size of the house, the spaciousness of the rooms is surprising. There is no feeling here of being crowded and restricted.



The screened porches add materially to the living space on the first floor



The stairs are admirably planned to encroach but little on the room space

The Service of the Architect

BY HOWARD HAMMITT

THERE seems to be a vague idea in the minds of many people as to the real functions of the architect, and exactly what service he renders in return for his fee. What he does in connection with the designing of a building is generally understood. It is common knowledge that in his preparation for the profession he trains his artistic talent to a high appreciation of form and proportion, makes an exhaustive study of the architecture of the ages and masters the technique of mechanical drawing; that it is his duty to translate into the design of the building his best appreciation of the individuality of the owner and cause it to represent truly in form the purpose for which it is to be used. But few people without building experience realize the nature and extent of the work aside from the matter of design that the architect undertakes in connection with the administration and supervision of the building operation and how it is possible for him to effect an actual saving of his client's funds if his work in this department is successful.

In his initial interviews with prospective clients he often encounters most interesting situations on this account and is obliged to correct many strange misconceptions in regard to his work and methods. For example, the proprietor of a public garage in a thriving New York suburb who is contemplating an addition to his building to double its capacity says, "The new building will be nothing more than four walls and a roof, and I would hardly need an architect for that." A young matron about to establish her homestead says, "I could have my house built from this plan I cut out of the magazine. It is almost exactly what I want and I would not bother with an architect; but I want some changes in the rooms and I do not quite like the exterior." A leading Fifth avenue tailor who has decided to build a home in a suburb says, "I know all about building. No contractor can get the better of me. All I want is a set of plans and specifications and I can take care of the rest. Now show me the best house I can build for $12,000." Cases like these come every day to the architect dealing with prospective builders, and their frequence would seem to justify a brief explanation of architectural service in accordance with customary practice.

In the ordinary job there are three distinct divisions of the architect's work. These are: (1) the design, (2) the working drawings, specifications and details, and (3) the administration and supervision of construction.

The design is embodied in what are usually termed "preliminary sketches," which show the general plan of the interior and the form of the exterior. These are drawn to scale, but are not made in sufficient detail and with the accuracy necessary in actual working drawings. In these sketches the architect works out in definite form his solution of the problem based on the suggestions and requirements of the client. They constitute the medium through which a definite understanding is obtained of the size, design and cost of the proposed building. Here his artistic talent is brought into play and his ability as a designer is determined.

Before attempting this work he studies all those characteristics of his client that he can discover having a bearing on the client's home life. In this he must consider the whole family as a unit rather than the individual, if the house is to be equally successful for all. In the preliminary interviews he is ever alert for indications of taste and preference for special features. He will go over carefully with the client plans of a number of houses he has built and discuss the relative cost and desirability of various building materials. He is glad to see photographs of other houses that strike the client's fancy, as these assist him in determining just what is desired. A study of the proposed site is also necessary in order to design the building to harmonize with its surroundings.

If the preliminary sketches as submitted are not entirely satisfactory they are changed or re-drawn until they represent exactly what the client wants and are acceptable in every respect. When these sketches are approved the first step is completed.

The next step is to prepare the working drawings, or plans, and write the specifications. The plans show the form and size of every part of the building. They require very careful and accurate work and are usually made by draftsmen under the direct supervision of the architect. Every detail is worked out precisely to scale and leaves no feature to the discretion of a workman. All questions of engineering, such as bearing strength of beams and columns, the relation between roof pitch and the roofing materials to be used, proper layout of heating plant, plumbing, lighting and structural ventilation, must be considered and wisely cared for.

The specifications designate the exact kind and quality of every material to be used and cover all details relative to the method of construction and progress of the work. They constitute the most important part of the contract with the builder. The judgment and experience of the architect is tested to the fullest extent in writing the specifications. In this alone he can often save the client many times the amount of his fee. The most appropriate material must be selected in each case, not so good as to cause needless extravagance or so poor as to bring after regrets that too great economy was exercised. The specifications must be complete to the last detail and cover every feature of the work, for two important reasons. The first is that the builder is thus enabled to figure very precisely the actual cost of the work. Nothing is left to his judgment or imagination and he is not obliged to allow a margin for contingencies. He can, therefore, estimate closely and make the lowest possible bid for the work. The second reason is that complete specifications which anticipate and fully cover every feature of the construction work entirely eliminate all extra charges. This enables the owner to place a definite limit on the cost, plan up to this limit and be assured that the amount of the contractor's bid will cover his entire expenditure. To accomplish this requires most painstaking work on the part of the architect, but the result is sure to be of financial benefit to the client and save him much annoyance.

With the plans and specifications completed the architect takes up the third feature of his work, the administration and supervision of construction. He proceeds to obtain from builders bids for the work. He supplies blue prints of the plans and copies of the specifications for this purpose and his office is used as headquarters. His judgment and experience are again of value to the client in selecting the contractor to whom the work is to be entrusted. The integrity, financial responsibility, methods, promptness, efficiency and general reputation of the various bidders are known to the architect and his advice in this matter is sure to be of value. It is frequently wise to give the job on a higher bid than the lowest when the qualifications of the bidders are considered.

When the successful bidder is determined the architect acts as counsel for the owner and draws up all contracts between the owner and the builder. He is familiar with all points of law that apply to such contracts and no further legal advice is necessary for the owner to enjoy full protection of his interests.

Before excavation is begun it is customary for the architect to stake out the exact site of the building, taking advantage of the

(*Continued on page* 63)



The advisability of fireproof construction need not be urged to-day, but some are not yet convinced of its reasonable price and possibilities for attractive architectural treatment. This latter point is shown in this house, the home of Rupert Hughes. Aymar Embury II, architect

Building Construction that Resists Fire

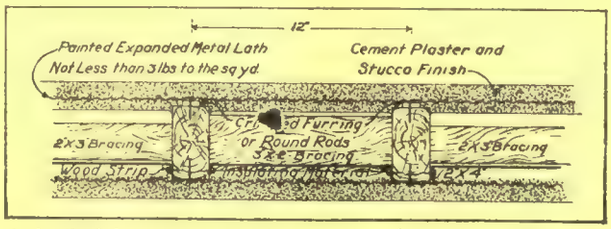
THE RESULTS OF EXHAUSTIVE TESTS ON VARIOUS METHODS OF FIREPROOF CONSTRUCTION—SOME DETAILS THAT WILL ADVISE THE PROSPECTIVE HOMEBUILDER OF LOW COST METHODS OF BUILDING

BY H. M. McMASTER

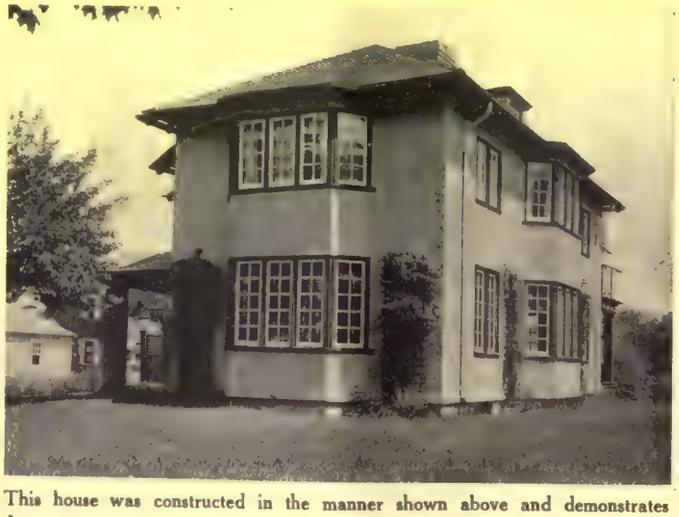
Photographs by T. E. Marr and Harry Coutant

WITH the growing tendency to accept the modern doctrine of fire prevention—that it is common-sense to build so not to burn rather than to place dependence upon costly and complicated methods of extinguishing, the prospective house-owner finds himself confronted by problems creating new view-points—both for himself and the architect. He does not want a structure that will begin to deteriorate before the roof is on; that will be a continual source of care and expense to keep from decay and that may be destroyed over night by fire.

Those who live in residential and suburban districts are beginning to think the things that worry persons living in congested sections of cities. When a man builds he now wonders what kind of roof will save his home from the menace of the flying firebrand and what kind of wall will best turn aside the fingers of flame reaching from a little blaze, which may have been started in the back yard by the children. It is not alone children who are fascinated by the magic of producing a flame from the tiny match head. A fair proportion of our huge fire loss is directly traceable to the effect of this "fascination." Sometimes considerations of cost prevent one from building of stone, brick, or concrete. Often, aesthetic or architectural reasons intervene before a man's preferences, and out of this situation has developed the vogue of the stucco house, which may be built upon the more expensive brick, the lighter and less expensive tile, the still lighter and less expensive metal lath on frame, or the pine lath on frame. The author has not in mind to make comparisions, invidious or otherwise, but rather to tell of one type of stucco house, which can be built at no greater cost than the ordinary clap-boarded house. It is a type which lends itself readily to the originality or creative genius of the architect, and in fact stimulates his efforts.



A detail of the construction indicated as Type A in this article, where no sheathing is used but the metal lath is applied directly to the studs



This house was constructed in the manner shown above and demonstrates the prominence of such materials after weathering. A. A. Thayer, architect

What a dreary old world this would be if we all thought alike—were all "trailers"—each content to do as others do! The iconoclast has a mission, surely; one who finds joy in creation must be imbued with the spirit of inconoclasm. Can an architect be other than this? Lately, the author went into a new

subdivision of a city where there had been much building. There were perhaps a hundred new dwellings within range of my vision, but there were some of the houses which obscured all the others to my view, as would a coin held closely before the eye blot out the sun. An investigation disclosed that the houses were very attractive stucco houses set among a few trees. Each of these houses had its "personality"—pleasing or displeasing—and I tried to analyze the effect upon me. It seemed that I was influenced most by the relation of the building to the setting. Nature's outdoor colors took into combination with them certain other tints that were agreeable or otherwise. The stucco was agreeable, having the fundamental to start with that stucco tints harmonize so pleasingly with Nature's colors and help the house to fit into its situation.

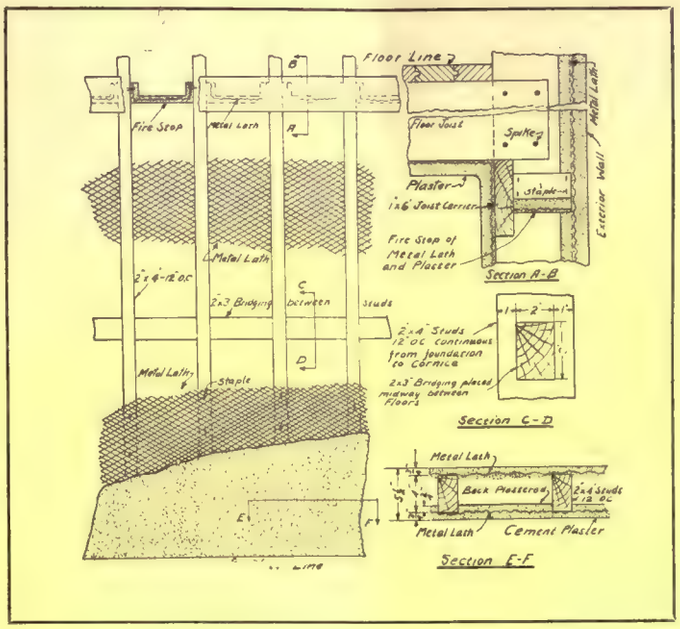
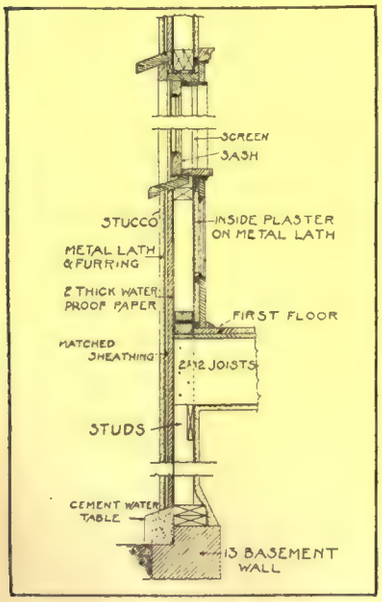


Fig. 1.—One important branch of fireproofing is provision to confine the blaze to a limited section. These diagrams show the recommended construction of a firestop which makes the floors fireproof

The imagination of the artist can run riot when he has a type of construction to work with that is—for the lack of a better term—elastic. The type to be suggested has that quality.



A cross-section of a wall built under the system described as B, with sheathed walls

Houses to resist fire may then be as attractive as other methods of construction, and it is the author's idea to tell of a method that has been tested under extreme conditions and which is economical as well as efficient. First of all, the house that is prepared to retard fire must be constructed to avoid combustion, both from the outside and from within. It must be roofed with some non-combustible material, either natural or artificial; for instance, tile, slate, concrete or some of the specially prepared articles on the market. Furthermore, hollow shafts and concealed spaces must be avoided unless the walls are properly firestocked on each floor level or the effect will be like a flue. With the provisions that are described in detail in the specifications at the end of this article, a means is adopted whereby if a fire starts within a house it may be localized so that it can be checked with small damage and its spread prevented. A fire in such a room would do little damage to anything but the contents of the room and its trim.

As a result of the experiments spoken of later on the stucco on frame construction was found to be particularly efficient. Stucco on frame with metal lath can be of two types. The construction oldest in use is that in which wood sheathing is fastened diagonally over the studding and then waterproof paper applied. Upon this half-inch strips of wood or metal are stapled, and the metal lath laid horizontally over the strips and then plastered. Out of defects that have been developed by this construction there has been evolved a new specification, the use of which dates back for ten or more years—enough to have demonstrated any weaknesses and its efficiencies.

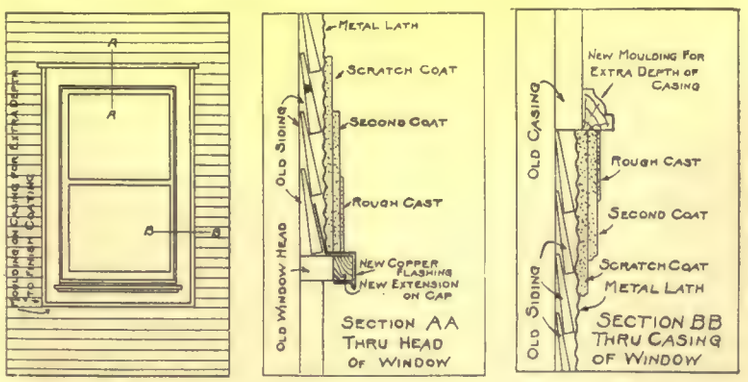
The cross section of an exterior wall built after this specification is shown by Figure 1.

Extraordinary measures were taken by the City Building Department of Cleveland last June to determine how far such a wall as this would resist fire. Mr. V. D. Allen, the City Inspector of Buildings, appointed the following committee to make tests: Professor John H. Nelson, Case School of Applied Science, Mr. William S. Lougee, architect, and Mr. L. H. Miller, engineer, representing Bethlehem

(*Continued on page* 58)



The home of George P. Dike, J. Lovell Little, Jr., architect, which shows the adaptability of fireproof construction to houses somewhat along the English style. It was built in the manner described in this article



Where frame houses are to be remodeled a method of overcoating with lath and stucco can be resorted to that is fire resisting. The difficulty of bringing the sash out to the level of the new surface is obviated, as is shown in these drawings by the use of a new extension cap and extra depth of molding

How to Go About Planning Your Home

THE PROCESS OF GETTING YOUR HOUSE PLAN TO FIT YOUR REQUIREMENTS—A SERIES OF PLAN STUDIES WHICH WILL INDICATE VARIATIONS IN PLAN AND WHICH SHOW DESIRABLE FEATURES

BY C. E. SCHERMERHORN

Drawings by the Author

THERE are no hard-and-fast rules to govern the planning of a house; personal habits and ideas are all-important factors; what might be inadequate for one, might be perfectly satisfactory to another. In your contemplated house you likely have pondered over and considered that certain requirements are essential. Try to formulate and express these ideas in such a manner as to obtain an intelligent comprehension of how they will fit together; in other words "live in the plan" before it is caused to exist in material.

With simple lines, as suggested in the accompanying cuts, sketch out your ideal plan, correcting it until it typifies every required convenience adapted to every-day use for all those who have anything to do with the house, so that owners, guests, servants and trades-people shall find what they want without too many steps, trouble or conflict in the working of general household machinery. Study over these plans; various features are typified and can readily be reasoned out, thus avoiding the impossible and impractical. Consider the diverse points between which the most traveling is done; bring them together without conflicting, so that you get directness, with each room in natural relation to the other, with the object of avoiding passing through one room to reach another. Provide for direct but independent means of communication between kitchen and front door; if possible the pantry or a lobby should intervene, in order to effect privacy and the prevention of kitchen odors permeating the house.

Avoid irregularities in floor levels, the confusion as to the "hand" of doors when hung (that is, whether they should open right or left to avoid interfering with closet doors or projections), introduction of windows in staircases, any chimney not being perpendicularly continuous from its foundation and inconsistent in its location to provide for heater, range and fireplace flues.

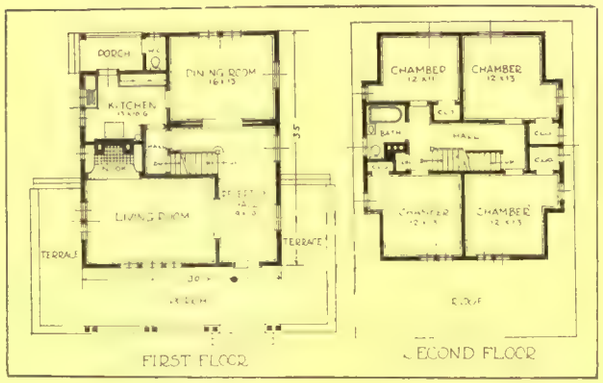
Place the main stairway in the most advantageous position, consider its accessibility, its ventilation-affording possibilities, the head room under the floor construction, provisions for a turning space on landings, also easy step risers and generous treads.

Express your desire for an outside cellarway, the rear or other porch, the outside toilet, facilities for introducing ice to a refrigerator either from outside or so located as to eliminate the necessity for a journey with dripping ice through the kitchen or other apartment.

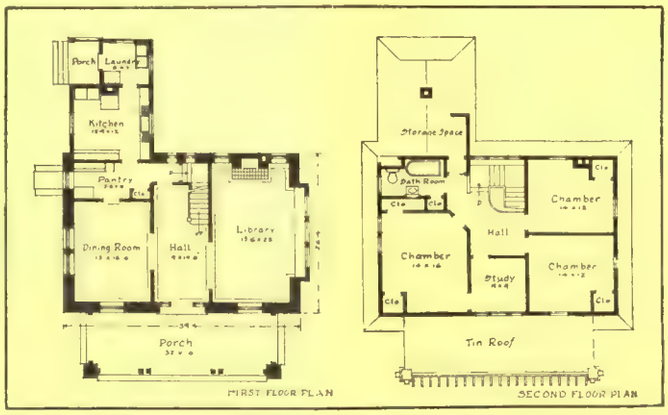
Plan to be orderly in arrangement, consider convenience of, position for, and light on sink, range and laundry tubs. Locate your kitchen or other dresser, cold room, grocery closet, your exterior wash-paves and hydrants.

The importance of the veranda or porch should not be lost sight of; it should be of a generous width and judiciously roofed so as not to darken, too much, the rooms upon which it encroaches, as it is easier to shut out the light than to let it in.

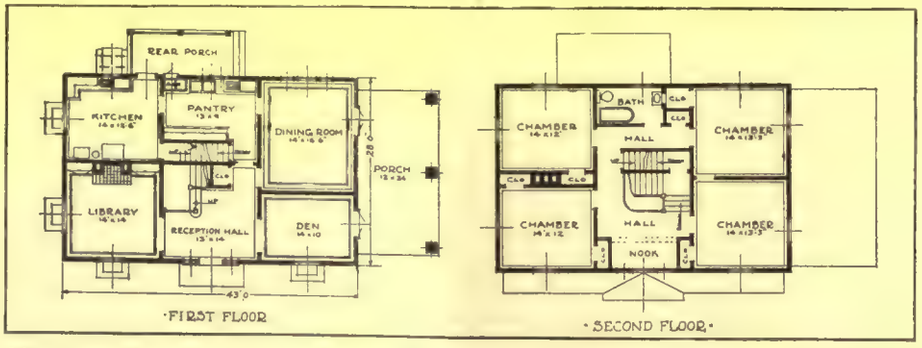
Consider exposure to sun or light, direction of prevailing breezes and the general outlook or prospect from the house; the type of artificial light and heating, keeping in mind location and height of outlets and radiators for effectiveness and furnishing. Realize that plumbing economy is dependent on the close proximity and directness of supply and soil pipes, therefore endeavor to group fixtures on



A typical example of a small, one-chimney, four-bedroom house with bath. It provides a front porch with side terraces, stair hall, large living-room with fireplace in an ingle nook. The kitchen is isolated from the house proper by means of two doors, thus also permitting the owner to go to cellar without going through kitchen. The want of a pantry backstairs and a laundry is to be noted, but the generous-sized bedrooms, with closet space and admirable main stair location, is considered a compensation



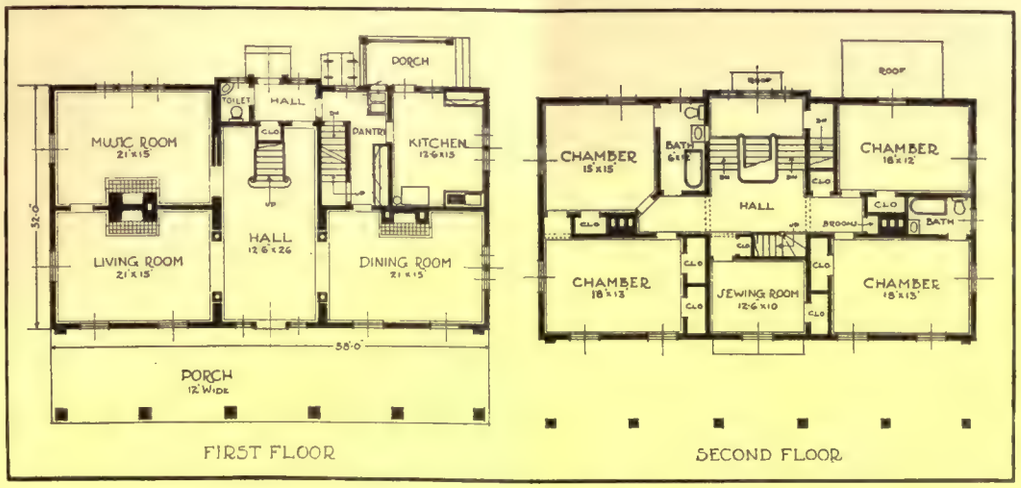
A good example of a "large-small" house with three bedrooms and a bath, having a center hall, a pantry available to hall and dining-room, and a wing containing kitchen and pantry. All bedrooms are convenient to the hall, and there is a room for use as either a study or a dressing-room. The rear chimney could be eliminated if a gas range were used in lieu of the coal range, hot water coming from a generator located in basement



Many square feet of house area can be saved by means of a plan having the staircase in a semi-center hall; causing independent backstairs to be immediately available from the service portion of the house. This type of plan has many other economical features, bathroom over pantry and in close proximity to hot-water source, permanent refrigerator location opening on a rear porch, outside cellar-way, a sewing nook in second floor, hall and bedrooms of generous proportions and very accessible to the hall

each floor, as near overhead as possible.

Endeavor to avoid breaks or offsets in wall and ceiling surfaces, crannies, niches and nooks; either deliberately convert them into closets or promptly reconstruct your plan study. Make a serious effort to keep to main or so-called "bearing" partitions for the various floors over each other, even to and through the top floor or loft, to act as roof supports and stabilize the house.



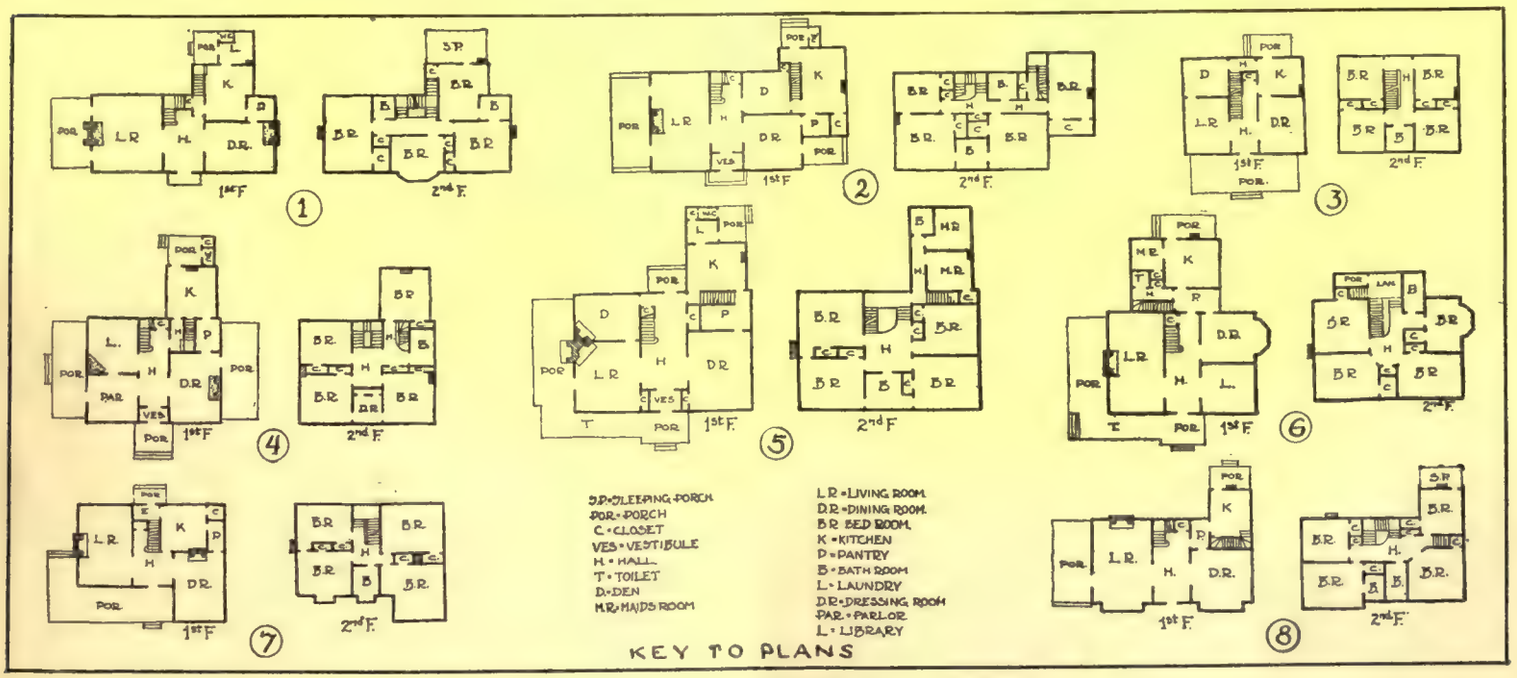
A center hall treatment with center staircase turning each side at main landing. Under stairs is located a rear hall with small toilet room, through this hall opens the pantry, also permitting access to front door by the maid and the owner to the cellar without entering the kitchen. The dining-room fireplace also provides a flue for the cellar heater and kitchen range. The backstairs end on the half-pace landing of the main stairs. The directness of the hall to all rooms is to be noted, together with ample closet space throughout, also stairs to attic, private bath and sewing-room. This example was selected to show an oblong house, with well-proportioned rooms, economical hall spaces, method of supplying ice to refrigerator, convenience of cellar-way and all appointments directly related

When the body of a house is being planned for a specific exterior outline, it is good practice to extend a wing to accommodate the first floor service requirements, such as pantry, kitchen, laundry and rear stairs and perhaps servants' quarters in the second floor, but isolated from the main portion of the house by means of a passage door from rear hall. It is important to give consideration in the plan to type of water supply—whether an attic or a basement tank is to be provided for.

Now comes a need to think out the location of the house heater, whether hot air, steam, vacuum or hot water. The coal bins, a jelly closet, provision room, wood storage, location for vacuum cleaning apparatus, an individual lighting plant of acetylene, gas or electricity, must be considered. Keep in mind the need and location for outbuildings, the garden, gateways, walks, drives, terraces and hedges or fences with relation to existing streets and adjoining properties.

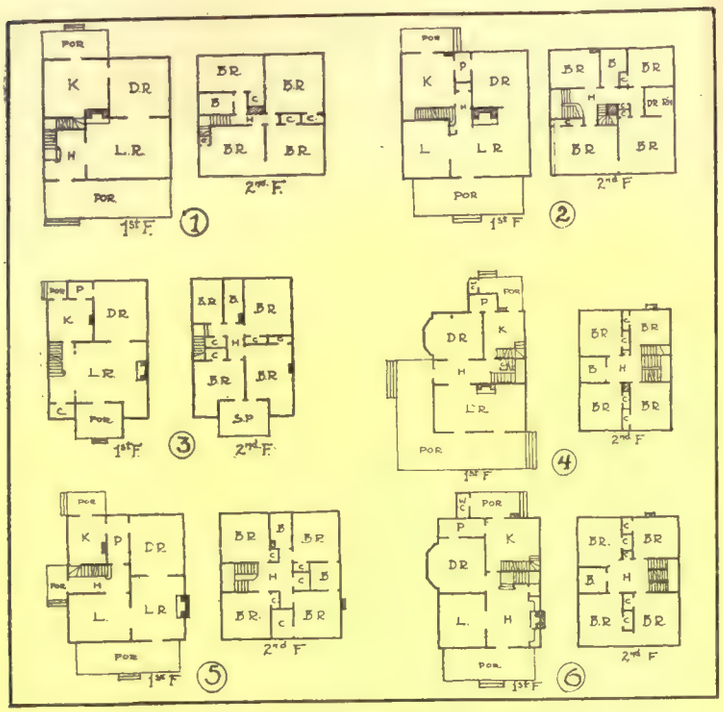
Give close and serious application along these suggested lines and you will be enabled to scheme out a plan which should show no effort to make itself interesting when developed by the architect. But always keep in mind your family needs and peculiar requirements; for instance, what you intend to do in the way of entertaining, your chief desiderata in the way of closet space, built-in conveniences, etc.

The difference between the attractive house and the house that is displeasing comes in the variation of its shape, form, or outline, all dependent on its plan arrangement; many of the annoyances that attend house planning and building would be avoided if the knowledge acquired during the process had been possessed in the beginning. The plan is nothing if not compact; its effectiveness is dependent largely upon its consistency with require-



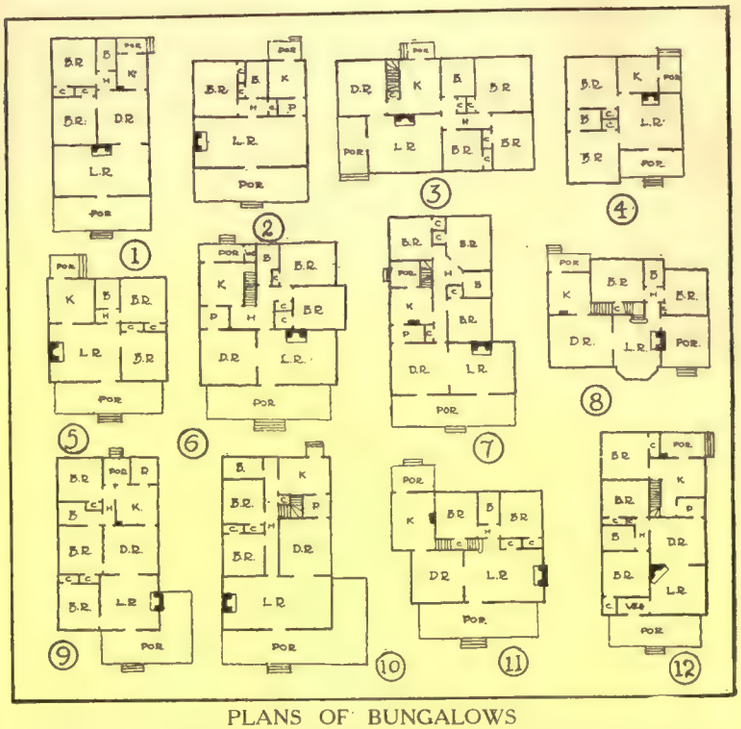
PLANS OF CENTER HALL HOUSES

(1) Shows side porch with fireplace, rear laundry, backstairs joining main stairs, one bathroom accessible to two bedrooms
(2) Vestibuled main entrance, oblong living-room, den, dining porch and isolated backstairs
(3) Den off living-room, one staircase and one bathroom second floor
(4) Parlor and library adjoining, isolated backstairs, a second-story dressing-room
(5) Porch, living-room and open fireplace attached to one chimney, vestibuled entrance, rear porch, small laundry, backstairs and servants' quarters
(6) Two porches, maids' room on first floor, rear stairs join landing of main stairs
(7) Returned front porch, rear entry, fireplace and range flue in one chimney
(8) Side porch, backstairs, one public and one private bath adjoining, rear sleeping porch or solarium



PLANS OF FOUR BEDROOM HOUSES

(1) One-chimney type, with stair hall and bathroom over kitchen
(2) Introduces a library, with small hall separating kitchen from living-rooms, the bath located for convenient plumbing, the dressing-room a desirable feature
(3) Large living-room, hall space economy, a sleeping porch available from both front bedrooms
(4) A returned porch, stair hall and a backstair case.
(5) Front and side porches, pantry separating kitchen from hall and dining-room, a private bath accessible from two bedrooms.
(6) Hall with fireplace in an "ingle nook," a library, backstairs, small second floor hall with all rooms instantly available



PLANS OF BUNGALOWS

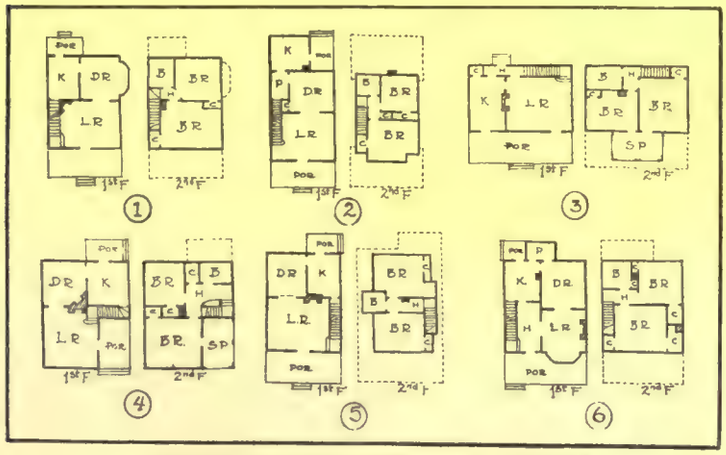
(1) One bedroom, pantry and large living-room; (2) front porch, large living-room, two bedrooms with bath; (3) one-chimney feature, three bedrooms and bathroom off of an isolated hall; (4) two bedrooms separated by the bathroom, also the one-chimney feature; (5) two bedrooms, the living-room a combination dining-room; (6) pantry separating dining-room, two bedrooms, with bathroom directly available; (7) center kitchen with side porch, pantry, three bedrooms, bath, stairs to cellar; (8) corner porch, stairs to attic and basement, two bedrooms and bath; (9) returned porch, three bedrooms and bath; (10) wide living-room, hall to two bedrooms and bath, stairs to cellar; (11) wide type with front dining-room and two bedrooms separated by bathroom; (12) vestibule entrance, three bedrooms and bath

ments of directness, with the axis admirably precise; it should be developed and wrought with such care that, when constructed, its occupants may enjoy to the utmost its advantages and domestic atmosphere.

After your typical plan has been evolved in this manner you can fit pieces of paper, cut to a scale representing the actual size of your furniture, and in reality furnish each room in your house-to-be; note the space between the various pieces, so that the working facilities of each room can be realized as ample and practical. In this way you can get an idea of how your house will appear when you are once in it.

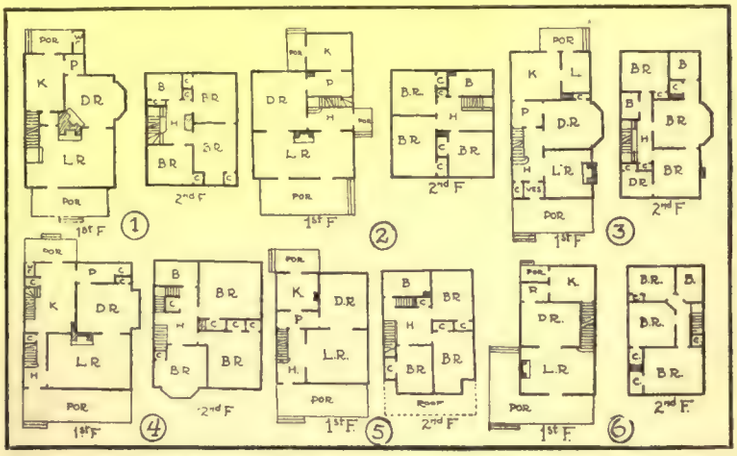
If the reader bears in mind that not only are extra angles unpleasant in a house, but that they add to the cost and that as regards wall space the more nearly a house approximates a square or rectangle and does away with exterior angles that his

(*Continued on page 69*)



PLANS OF TWO BEDROOM HOUSES

(1) One chimney for heater, fireplace and range; bathroom over kitchen affording plumbing economy
(2) Narrow house, with pantry and a rear kitchen
(3) One chimney for two fireplaces, range and heater, second-floor sleeping porch
(4) Wide house, with sleeping porch, available to both second-floor bedrooms
(5) Extreme hall space economy, also a one-chimney type
(6) Stair hall and bathroom located for economical plumbing



PLANS OF THREE BEDROOM HOUSES

(1) A one-chimney plan, rear pantry and bathroom over kitchen
(2) Front and side porches, living-room across house, pantry and rear kitchen
(3) A narrow front, with vestibule entrance, laundry adjoining kitchen, second floor has one private and one common bathroom, also a front dressing-room
(4) Stair hall, one-chimney feature and incorporates a back staircase
(5) Pantry between stair hall and kitchen, separate stairs to third floor
(6) Hall space economy and all appointments direct and compact

What We Learned When We Built Our House

A PERSONAL EXPERIENCE IN HOME MAKING—FEATURES THAT HAVE PROVED THEIR WORTH AND MISTAKES THAT PROSPECTIVE BUILDERS CAN EASILY AVOID

BY EMMA PADDOCK TELFORD

WHERE should it be? What were the absolute essentials in the country home I wanted, free from New York's noise and tumult? Briefly summarized they were: pure air, sunshine, breathing spaces, a water supply and sewerage system above reproach, pleasant things to look at—trees, flowers, a garden where I could have vines of my own planting, refined neighbors as homogeneous as possible, and all within easy access of the great city.

The Palisades offered the best promise, and a lot was purchased there from what was believed to be an honorable company. Its frontage was fifty feet, while it extended 165 feet in depth, affording a chance for a barn or garage if ever one was needed. The purchase price was listed at $2,000, but a considerable advance "cash down," procured a small discount. In three years the lot was paid for and then, being assured by a friend who was an architect that it was an ideal time for building and that he would personally look after every detail, I decided to build. The plans were drawn up, compared, talked over and altered until they seemed complete.

In deciding on the material of which the house should be built, concrete received the deciding vote. And we next began to assemble our ideas. Much of the furniture was to be built in to save buying and at the same time preserve a consistent decorative scheme. There was to be sunshine in every room, fireplaces that would draw, an upper balcony that could be used for out-of-door sleeping and for airing bedding and brushing clothes without having to drag everything down into the yard. There was to be plenty of pantry and store room, a good cellar, and window boxes inside and out.

The house completed was to cost $5,000. It could not be less than that according to the restrictions imposed by the company and it ought not to be more than that according to the state of my finances and income.



The exterior is of gray cement which, combined with the green of the window and door casings, the molding, the climbing vines and window box plants, gives a harmonious and pleasing effect

With such detailed specifications it would seem that mistakes could not be made. Nevertheless experience showed that they could and did occur. But that is another story.

A minor mistake was in the digging of the cellar. The contract called for a cellar under the house, which, being interpreted according to the sense of the first paragraph—"according to the true intent and meaning"—meant under the entire house. On digging for the foundations, however, it was found that the difficulty of blasting the entire rocky bed of the cellar would be greater than expected. The architect sent a notification that at least a hundred dollars more would be needed for that work alone. Although it seemed most unfortunate to give up the cellar room counted upon, an unwillingness to increase the original estimated cost on the very setting out of the work led to a compromise and the cellar was made only large enough to allow for a furnace place, coal bin and store closet, the remaining space being left "unnatural," as it were, the rock forming a wall and the house being raised up higher than intended to give air space beneath its entire length.

It must be remembered, too, that the picture of the house will not be quite the same in aspect as the actual building, as the pitch of the roof or set and height of the windows will appear different. If these things are expected the sense of disappointment will be guarded against and perhaps avoided.

The arrangement for beginning the building commenced with an application to a Building and Loan Association for the requisite loan of $4,000, the lot and house as it would be finished being the security. To negotiate this loan a deposit of $10.50 was demanded before the acceptance was announced. When this had been made a further deposit of $50, together with deeds and titles to the property, was handed over to the company. They then forwarded papers to their attorney and made

arrangements with the architect as to payments. It was advised that the payments be made in as few instalments as possible, as an inspection fee is charged for each payment.

The cost as agreed upon under the contract and payment thereon was as follows:

The total cost when completed was $4,880. Payments were to be made in four instalments: 1. When foundation wall was built, house framed and sheathed and roof on, $1,333.33. 2. When piazzas and outside trim were finished and inside studded, lathed and plastered complete, chimneys built and topped out, cesspool built and soil pipe in, $1,333.33. 3. When work was finished complete as per plans, $1,333.33. 4. Thirty days after completion, $880.



The living-room opens directly from the dining-room, and though its decoration is different the treatment is agreeable. Wide panels add to the apparent size



The fireplace is flanked by a built-in seat, balanced on the other side by a bookcase, both made possible by the deep chimney

Four copies of the contract had to be made, one for the owner, one for the contractor, one for the architect and one for the loan company. The work had not proceeded far when the architect's bill for payments of three and one-half per cent on the total cost and their expenses to date was presented, $173.70. Then small bills appeared frequently, bills for surveying, leading, etc. An astonishing number of "applications" had to be made. This is here chronicled as worthy of note by those intending to build and who need not be uselessly alarmed at these things that, at first, seemed to be extra expenses thrust forward in quick succession. These were now an application for water connection, then an application for gas supply; next one for sewer connection and so on. These, whether or not demanding a fee paid for them, startle the unprepared owner who expects that the contract will include all such matters and that the builders or architect will see to them.

The contract itself itemizes carefully under the proper heads what has been agreed upon as the contractor's part to do. The owner can, before signing this contract, stipulate for changes but may not do so after having signed except at increased cost to himself, or herself. The contract in question provides that all materials used are to be the best of their respective kinds and all work is to be done in the most thorough and workmanlike manner, according to the true intent and meaning, whether expressed or implied, of these specifications and the drawings accompanying them.

All went well until just before the building was completed and when arrangements for moving in had all been made. Then in getting ready for the payment of the last installment, the Building and Loan Company discovered that the number of the lot as given by the surveyor did not correspond with the original map. The company's men had blundered horribly and the house had been built on the wrong lot. Had the company been reliable, had the owner of the lot been otherwise than a lawyer who had understood all along that the Jersey law "Whatever is built on a man's lot is his," would throw my house in his hands, all could have been settled without great delay or great expense. As it was the workmen had to be called off and lawyers employed. A hiatus comes here not pleasant to contemplate; but for the prospective builder, there is this word of cheer: Never before in the annals of home building in the United States had such a mistake occurred and that was on the Pacific Coast. After weeks of parleying, the substantial payment demanded by the lawyer owner of the lot was paid, the lawyers' fees were settled and building resumed.

And now "The House of the Red Geraniums" is finished, and already the vines—honeysuckle, wistaria, ivies and morning glories—are creeping valiantly over it, the lawn is getting velvety, the pergola has a wee bit of shade with much more promised from the twelve choice grape vines set along either side and the elderberry bushes backing them. The vegetable garden has already demonstrated its *raison d'etre* in a plentiful supply of crimson tomatoes, radishes, tender lettuce and curly parsley, while the scarlet verbenas, the roses, the gay nasturtiums, the delicate cosmos, and the overflowing window boxes filled with ivies and red geraniums, are doing their level best to make the new home cheery and attractive.

In the "Friendship Garden" at the rear, and on the north

side of the house, there are lilacs and syringas, lilies of the valley and sweet William, iris and china asters, each one a contribution from other loved and well-known gardens, that friends have sent for "old-times'" sake.

Approaching the house from the direction of the trolley, that is from the south, it presents a most pleasing façade and side elevation, of the English cottage style of modern architecture. The exterior is of cement, gray in color, while the shutters, window and door casings, moldings and the top of the pergola-like porch are painted forest green that, with the window boxes and flower plans and vines, conspire to give a harmonious aspect to the whole place.



The recessed west window of the dining-room, beneath which a commodious buffet has been built in, faces the living-room

The mistake about building the cellar caused the house to be set considerably higher above ground than the plans called for, and this detracts somewhat from the harmony of contour it presents on approach. Drawing nearer this is not so apparent; at the front steps the entrance seems gracious enough. Quite a pretty feature from the outside are the window boxes, which, being built on, are more completely in unison with the entire building than such decorations usually are. Moreover, they give the upper story a spacious look, and have, too, the effect that balconies do on structures to which they are appropriate. Another excellent point and one of great importance in the comfort of the house is in the size of the windows. They are much larger in proportion to the size of the house than is often seen, yet so true a harmony has been preserved that they are thoroughly in keeping. The latticed window extends beyond the walls, the others are set in flatly and all are squared top and bottom, excepting the attic window, which is rounded at the top. The front and south exposures have sunshine nearly all day.

At the front walk the porch roof gives a solid shelter immediately overhead, while the pergola effect is given by the open extended beams and cross scantlings. The front door, not seen in the picture through the screen, is glazed half way down in large diamond panes, an inner door, which closes an entrance vestibule, having similar treatment.

Reaching the level of the porch it is seen that the width of this is excellent. As the balustrade is a low wall of solid cement, a screen is afforded that gives a sense of privacy to those sitting in what is thus an outdoor room, spacious enough for large, comfortable chairs for everyone. Then, too, as half the veranda is left roofless, a sunny sitting place for colder days is provided as well. The roofed portion has an electric light, the convenience of which

(*Continued on page* 55)



Between the dining-room mantel and the swing door into the butler's pantry there is space for a side table. A diamond-paned china cabinet is well placed over the mantel



The living-room extends twenty-four feet from the foot of the stairs to the latticed south window, where is a broad window-seat pleasantly exposed to the rays of the winter sun

The Whole Process of the Building Game

BUYING THE LOT, SELECTING THE KIND OF HOUSE, DETERMINING ON NECESSITIES, AND ADVICE PERTINENT TO ALL CONTINGENCIES OF HOME BUILDING

BY A. E. SWOYER

BUILDING a house is a comparatively simple matter, capable of being handled by the average carpenter or builder. Building a home which shall realize your ideal of what the word means is not simple, for the completed structure must not only suit your own peculiar needs but embody your personality as well. Architect and builder can but translate your ideas into feet and inches or into dollars and cents; they can save you from the pitfalls which open before the inexperienced and they can, from their knowledge gained in supplying similar wants, suggest improvements which will meet with your approval. Beyond this they cannot go, except at the sacrifice of your individuality.

Yet building a home is a serious matter. You must look ahead and plan your home not only for your needs of to-day, but of to-morrow and of ten years from now, and you should so locate and design it that you will have a property which is constantly increasing in value. It is a good rule to paraphrase the old motto and resolve to plan as if you were going to sell to-morrow; build as if you expected it to be your home for fifty years.



Shingles are most appropriate to a style of house popular in America, and sometimes called the farmhouse type. When laid in wide courses and painted white, with green trimmings, the result is decidedly attractive. Bates & How, architects

The first point, of course, is the selection of your lot, as upon this depends not only the style of your home but the amount of money which you may sensibly invest in it. It is not wise to tie up so much of your building fund in land that you must skimp the house as a result; nor does it pay to buy a cheap lot simply because it is cheap and then erect an expensive home upon it, for your house will not only be cheapened by its surroundings, but will prove a poor investment from other points of view. The proportion that the amount invested in land should bear to that of the house varies in different localities; in general it should not be over twenty per cent, where sufficient ground for building purposes, including lawn and a suitable yard, is all that is necessary. The proportion does not apply to small farms and kindred investments, where the land itself is expected to make a money return.

In the suburban lot important factors determine its value if not its cost—the latter being often due to the advertising of the promoters rather than to intrinsic worth. First, is the suburb a growing one?—for upon its growth depends the value of your investment. Second, what are the building restrictions?—for you may be sure that the building of saloons, barns or cheap stores near your holdings will depreciate them. Third, are city conveniences, such as sewer, water and gas, available? Fourth, the tax rate; often a suburb is actually within the city limits, and you pay city taxes without increased advantages. Fifth, train service and fares; this is important, because if you are employed in the city transportation becomes a fixed charge, to be considered in the same manner as insurance or taxes. A little consideration along this line will often save many dollars; perhaps by moving a little farther out the increased cost of commutation will be offset by the lower tax rate and by the economy with which your land may be purchased. Frequently, too, a suburb may be found which is served by two competing railroads, or by railroad and trolley—this competition invariably means lower transportation. Last but not least, do not let the beauty of the suburb in summer, when everything is green and blooming, mislead you—two feet of snow or slush will transform those beautiful winding paths into something entirely different! Look at the character of prevalent sidewalks and roads—are the walks laid and the roads macadamized? All the difference between winter comfort and the pleasure of slopping through the wet twice a day, with pneumonia lurking in the background, lies between them. With this end in view, find out how many of your prospective neighbors live there the year around; if possible, buy your lot in the winter—if it suits you then, you may be sure that you have not been misled by the glamor of the season nor by the high-sounding talk of the agent.

For that other class, the families who have attained a com-



Stucco is being used for various types of homes. Here its surface is made more interesting with a judicious use of lattice. Aymar Embury, II, architect



A Colonial house of clapboards that follows the old precedent. Clapboards are especially fitted for designs such as this. Hays & Hoadley, architects

fortable competence and look to the country home as a peaceful place in which to end their days, some few points may be of interest. Of these, the question of water supply is an important one, although usually to be solved by driving a well, artesian or otherwise—located with the best judgment so that its bottom is above the level of cesspool, barnyard and chicken run. School facilities demand the consideration of families with children, while proper markets for the purchase of necessary supplies should be within reach. The conveniences of the city are not to be found, nor should they be expected, but much may be done by the wise expenditure of comparatively little money. Thus if running water in the house is regarded as a necessity, it may be provided by means of either a small gasoline engine, or a windmill, in connection with a pump and tank. Lighting may be arranged in a number of ways by the use of various complete systems, either gasoline or acetylene being usually involved. Perhaps the ideal lighting system from the point of safety and ease of operation is to attach a suitable dynamo to the small gas engine used for pumping; the house may then be wired for electric light, with the certainty that current will be supplied by your own plant when wanted—and at a cost usually less than the charge for lighting service paid by the city dweller.



Brick is coming to its own again, and has silenced the criticism of stiffness once charged against it. Mann & MacNeille, architects

So much for the points externally related to the lot. There are also certain factors within the lot itself which have not been mentioned, but which have an important bearing upon its value for building purposes. We will take the case of two plots of ground, located with equal advantages as to the external characteristics which we have mentioned; one of them, however, is a smooth, level plot of sandy soil, while the other is situated upon a hillside, upon which are numerous springs and ledges of rock—there should be no question in the mind of the sensible man as to which would be the better buy.

Should, however, the price of the hillside lot be much lower than that of the one at grade, nice considerations are involved as to the advisability of purchase; the only way to arrive at comparative prices is to figure both lots as it would be necessary to have them before you could commence building. If you intended to erect the ordinary type of house, the cost of grading the lot, additional labor of excavating in the rocky soil and the probability that you would need either a concrete retaining wall or a concrete foundation to prevent trouble with water in your cellar must all be added to the first cost of the lot in order to find its cost to you as compared with the other property. On the other hand, competent architects have designed special types of houses for hilly lots which do away with a great deal of this extra expense; such houses usually have the greater part of the basement above ground, which cuts down the excavating, while the ground is largely left in its primitive condition to produce a rustic background and the water is carried away from the house by means of drains. Such a location is in many ways ideal for houses of the popular bungalow type, to which the rough setting adds a peculiar charm. If you favor that style of residence, plots of hill land, almost valueless as far as the old-fashioned residences are concerned, can be bought very reasonably and prove in every way satisfactory. In general, these advantages are compensated by the fact that basement walls raised entirely above grade must be exceptionally well made in order to avoid cold floors and difficulty in heating the house. Sometimes sacrifice your yard in order to secure your rustic setting, and a number of steps must be built to provide entry and egress—an annoyance at all times and a positive danger when there are young children in the house. On the other hand, you gain a much better view, you enjoy better air, and you cannot be shut in by other houses. It is a case of Hobson's choice between the two, which must be governed by your own preferences.

Then there is the lot below street level, which is frequently wet and marshy—this should be avoided when possible. True, the lot can be filled and graded, but this is expensive and, since

the filling is "made" ground, it provides a ready path for water to soak into your cellar, unless as before stated you provide against that contingency by means of concrete walls. A lot of this sort, owing to its lowness, often causes difficulty, sometimes sickness and death, because it is so nearly the level of the sewer that a proper drainage is not provided.

Exposure, too, is important. If the lot faces the east, it means cool afternoons in which to enjoy your balcony or porch; if you can get a southern exposure for one side of your house, so much the better—if you can procure land whose corners face to the half-points of the compass—that is, northeast, southwest and so forth—you are indeed favored, for if your house is not too closely built in, you can count on sunlight in every outside room during the day. The careful housewife knows what that means!



Your choice of material depends largely upon the material found in the neighborhood. An attractive fieldstone house of the Philadelphia type

Even when you have found exactly the plot which you desire and for the price which you care to pay, your troubles are not over—for some defect of title may cause the loss of your property. It always pays to have a lawyer or a title guarantee company look into this matter. This is forever settled if a reputable company searches and guarantees you from loss, and none but a reputable one should be employed.

The validity of the title, or rather the present owner's right to convey it, being made sure, tell the owner to have the lot surveyed—and incorporate this survey in the deed. The wisdom of this is shown in a recent case which I have in mind, where a certain lot was offered for sale as being "fifty feet front," with the assumption that this width was maintained for its entire depth. Upon the records being looked up and the survey made it was discovered that while the lot was fifty feet front right enough, it tapered to less than twenty feet at the rear! Had the man bought without the survey, he would have had to erect a "Flat Iron" building, or else purchased enough land from his neighbors to straighten out his lines.



Stucco on hollow tile is really a flexible building material. That one need not resort to the use of exterior wall decoration of other materials to produce a beautiful home, is proved by this house, the home of Mr. Perry MacNeille. Mann & MacNeille, architects

The survey being satisfactory, make the owner give you a "Warranty" deed—this places the burden of defending any suits which may be brought to contest the title upon the owner, his heirs or assigns. But do not accept the warranty deed as a substitute for the other precautions—this form of deed protects you only to the value of the lot, while after your house is erected your property represents to you the value of your house and lot.

The deed being drawn, signed and properly recorded, the next step is the location of your house upon it; in this connection do not be persuaded to build right up to the lines of your property. No matter how friendly your prospective neighbors may appear, they may not always remain so, or strangers may move in; to avoid prospects of trouble, build several feet inside the lines, in order that the eaves may drip upon your own property and, when you have repairing or painting done, your workmen may not have to trespass. The "waste" of a few feet of land is not a waste when it prevents the possibility of a suit for damages or even an order compelling you to shift your house!

The type of dwelling which you erect will depend upon your preference, the location of your land and the resources of your pocketbook. The bungalow type of building has more devotees every year, yet it is not always suitable nor always sufficiently roomy. For suburban use, life in the country and in many small towns it is hard to surpass, but it is well to remember that this type was developed for use in warm climates and demands a rustic setting to bring out its attractiveness. Set upon a small plot and amongst houses of the old-fashioned type, it appears incongruous and out of taste.

Disregarding the bungalow type for a moment, we may list some building materials in the order of their cost. Cheapest is the ordinary frame dwelling finished with siding and painted; this is the most general type, although now pressed closely for popularity by the frame house covered with stained shingles, and generally known as a "shingle" house. The first cost of the shingle house is slightly greater, but this difference is largely made up in the after cost of painting—

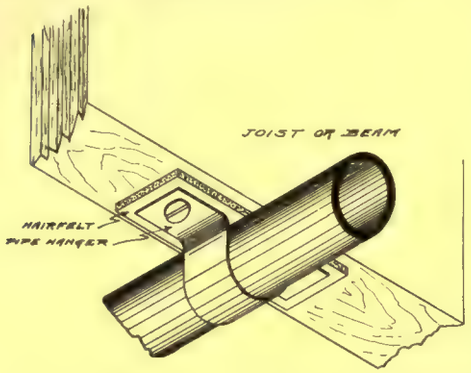
(*Continued on page* 48)

The Secret of Silent Plumbing

MINIMIZING THE NOISES INCIDENT TO THE FLOW OF WATER THROUGH THE PIPES BY PROPER INSTALLATIONS AND MODERN FIXTURES—THE EQUIPMENT FOR HOUSES OF VARIOUS SIZES

BY EDWARD C. CUTHBERT AND G. WILLIAM ISLEY

ANY of a hundred and one things may contribute their mite or their mightiest to noisy plumbing. Actually, and fortunately too, but a few of these many defects occur in the usual installation. But as the source of annoyance may be the result of one defect in one house and something else in the next house, until in a hundred and one houses we find them all, how are we to guard against hissing, hammering, gurgling, singing and all the rest of the evils, but by making our plumbing installations proof against each and every one?



A layer of felt between pipe and wall deadens vibration noises

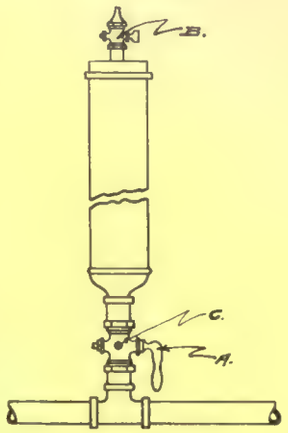
By cautioning architects and plumbers before and at the time of installing new plumbing we can be reasonably sure of avoiding the main causes of annoyance. If the plumbing in a house now built and occupied is defective the suggestions here will possibly indicate the seat of trouble and point a way to eliminating or at least modifying the nuisance.

The hiss or rumble of water in a supply pipe, which occurs when a faucet is opened, is quite common. It may be due to small pipe sizes, improper supports, high pressure, poor location of piping, undersized stop cocks or valves, and so on.

For a house with one bathroom, kitchen and laundry fixtures and one or two lavatories in bedrooms, the main supply pipe should not be less than ¾-inch in size. One-inch is even preferable if the pressure is less than thirty-five or forty pounds. If the pressure is lower than this the supply pipe should be one-inch, anyway—not especially to avoid noise, but to provide an adequate volume of water. The size should be increased one size for each extra bathroom—that is, 1¼ inches, 1½ inches or 2 inches. Pipe of ½-inch size is too small excepting for branch connections to single fixtures.

The pipe to the kitchen range boiler should be ¾-inch in a house having one bathroom and 1-inch for two or three bathrooms. For a larger number of fixtures a separate hot water heater with storage tank is usually installed. The pipes to the bathroom should be not less than ¾-inch, and if the bathroom contains a needle and shower bath, 1-inch is desirable. The bath tub should have ¾-inch supply pipes; the lavatory ½-inch; the closet ½-inch; the kitchen sink ¾-inch; the pantry sink ½-inch; and the laundry tubs ¾-inch. These sizes should be maintained right up to the connection with the fixtures even though the actual valves or faucets of the fixtures are smaller.

Water flowing through a pipe at a high velocity will not only hiss within the pipe itself but at times cause the pipe to vibrate. This is especially true of small pipes. The resulting noise is transmitted to the timbers, partitions and flooring until the whole responds like the highly-strung sounding board of a piano. Proper supports, placed not more than five or six feet apart and deadened to prevent the transmission of sound, are effective remedies. A layer of hair felt placed between the pipe, with its supporting clamp, and the woodwork is a good way to stop this trouble.



An air chamber that is recharged by closing cock *a* and opening cock *b*

At times it is advisable to cover pipes with a non-conducting covering to prevent freezing. This covering can be purchased in a manufactured form. It is sold in lengths of three feet. It also prevents the escape of the sound of running water within the pipe.

When wrought iron pipe is used for water supply piping (and to-day in ninety-nine per cent of houses it is employed) abrupt connections cannot be avoided. Lead pipe can be bent into easy curves which do not retard the flow of water, while the lead itself is a poor conductor of sounds or vibrations. Lead has this in its favor even with a much higher cost as a disadvantage.

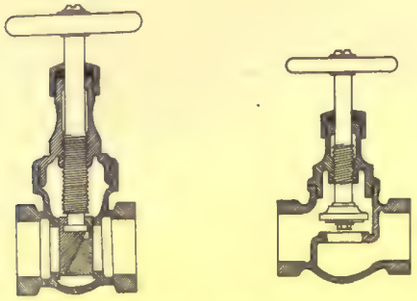
A good pressure of water—between twenty-five and seventy-five pounds—is desirable. Higher pressures than these are apt to be troublesome and noisy when water is drawn. High pressures can be lowered and controlled by installing a pressure reducing valve, through which all water to the house must pass.

Water is practically incompressible. With a high pressure the sudden closing of a faucet will produce "water hammer;" that is, the momentum that the flowing water has attained when a faucet is open will expend itself in hammering within the pipe when the velocity is suddenly checked by the closing of a faucet. Air chambers are used as cushions to prevent or reduce water hammer, and to be effective they should be at least 2 inches or 2½ inches; or better, 3 inches in diameter and three or four feet long. Sometimes they are placed on the water pipe where it enters the building. Water is more or less charged with air which is released when the pressure is reduced. Air chambers depend upon this released air for their effectiveness. If the air within the chambers was not continually renewed they would become waterlogged and useless. It is best therefore to place air chambers at the extreme end of the pipe line, where the pressure is lowest. It is not always possible to do this, as the end of the supply pipe is usually in the upper floors of the building. A convenient point to place air chambers is on the supply pipe just inside the foundation wall.



At the left is the core of a flat-way stop cock, less desirable than the round-way in the center. A complete round-way is at the right

To insure the effectiveness of air chambers, means should be provided to re-



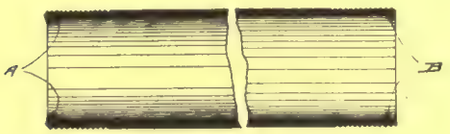
At the left, a gate valve closed. An opened globe valve is at the right

charge them with air every few weeks. The right-hand figure on page 31 shows how this can be done. Shut the stop and waste cock (a) and open the pet cock (b). The water that has accumulated in the chamber will drain out of the waste hole (c); the chamber meanwhile will refill with air through the open pet cock. Shut the pet cock and open the stop cock and the air chamber will again be ready for work.

The short pieces of pipe sometimes placed close to sink, bath and lavatory faucets to serve as air chambers are to some degree useful in lessening water hammer, but are too small to be practical remedies.

It will assist in at least modifying any noise that may occur if water pipes are not placed near living-rooms. Run the pipes through the kitchen, pantry and rear halls or closets. If the pipes must be placed in the walls of living-rooms, have them covered. Hair felt securely wrapped on with wire is good, or a specially manufactured covering can be used.

Round-way stop cocks and gate valves should be used instead of the flat-way type. Reference to the illustrations will show the difference between the full open waterway of the first and the undersized, contorted waterway which distinguishes the latter.



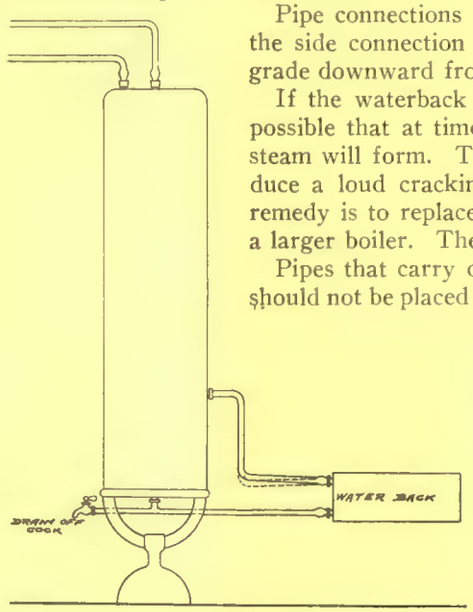
A shows burrs made in cutting pipe. They should be reamed out as at *B*

If water meters are used and the clicking of the mechanism is noticeable when water is drawn, wrap them in hair felt or pack them in a box of sawdust.

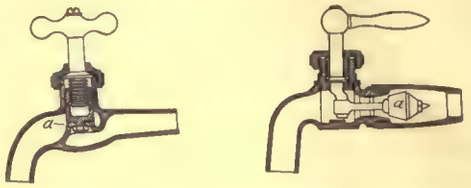
In the country, where water is secured by pumping or by hydraulic rams, the pounding of these devices is often annoying. If two or three feet of high-pressure rubber hose, instead of so much iron pipe, is inserted at an accessible place near or just inside the house, it will usually overcome the trouble.

Two principles are employed in the construction of faucets—the fuller and the compression. While the fuller pattern faucets are convenient to operate and of a more pleasing appearance, the compression faucets, which close slowly, prevent water hammer and give better service.

Compression faucets close against the pressure of flow water. Fuller faucets close with the pressure of water; and when the pressure is high or the faucet worn, the water will force the ball (a) to its seat and produce water hammer.



If the pipe sags, as shown by the dotted lines, water will not circulate freely



Two types of faucet. Left, compression; right, fuller. The former is preferable

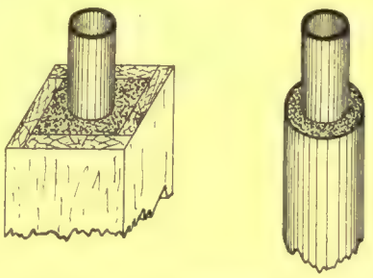
When the washers of compression faucets (a) are soft or become worn, they sometimes produce a chattering noise as the faucet is closed or when it is opened slightly. In this case the washers should be replaced with new ones.

Rumbling in the pipe connections between water backs in kitchen ranges and hot water boilers may be caused by small pipe connections. While ¾-inch pipe is often used for boilers of thirty, forty and even fifty gallons capacity, one-inch connections are better. The plumbers should ream out the ends of the pipe so that no projecting piece is left or formed to retard the flow of water or to collect rust or sediment.

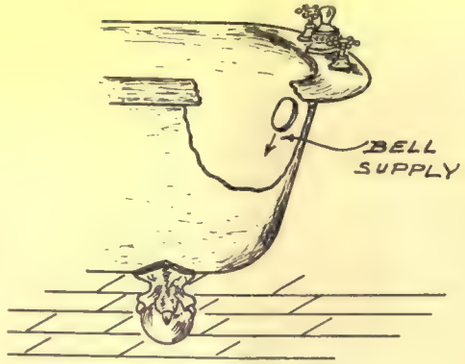
Pipe connections should pitch upward from the waterback to the side connection of the boiler. The lower connection should grade downward from the boiler to the waterback.

If the waterback of a range is too large for the boiler, it is possible that at times so much hot water will be produced that steam will form. The steam when it reaches the boiler will produce a loud cracking or pounding noise as it condenses. The remedy is to replace the waterback with a smaller one or install a larger boiler. The first suggestion is the better.

Pipes that carry off waste water from the upper floor fixtures should not be placed in the partitions next to living-rooms. When this is impossible through the location of bathrooms, the pipes should be covered with hair felt, securely wrapped on with wire or packed with mineral wool. The mineral wool can be held in place by means of a wooden box or, better, a sheet metal pipe—galvanized iron is good. This sheet metal casing should be one inch larger on each side than the waste or soil pipe that it covers. The space between the waste pipe and the metal or wood casing can be filled and closely packed with mineral wool—sawdust is sometimes used. It is advisable to insert "stops" in a long vertical casing every two or three feet to prevent the mineral wool and sawdust from settling and leaving the upper end of the pipes exposed.



An effective way of silencing noise in large waste pipes. Outer casing filled with mineral wool



Bell supply fittings avoid splashing and noise in filling the bathtub

Among the fixtures, water closets are usually the offending members in producing noise. Closets with high tanks are as a whole much more noisy than those fitted with low tanks.

The fittings within the tank itself are often the cause of much of the annoyance

(*Continued on page* 55)



Crops of Quality for the Home Garden

VARIOUS TYPES OF GARDEN PEAS AND METHODS OF GROWING THEM WHICH YIELD THE BEST RESULTS—SOILS, PLANTING AND GENERAL CARE

BY D. R. EDSON



EDITOR'S NOTE: *We have consistently endeavored to emphasize the fact that the one unanswerable argument for the home garden is table quality. You may or you may not be able to grow things cheaper than you can buy them—most people can. But the fact that admits of no questioning is that by growing your own vegetables you can have them better. Only so can you have them absolutely fresh; only so can you make sure of having varieties that have been selected solely for table quality. In this series of articles the most important of the garden's products will be discussed from the standpoint of quality. Special points of culture also will be suggested, with a view of obtaining not only prime quality but a continuity of crop over the longest possible season for each kind of vegetable.*

FEW vegetables are so delicious as fresh green peas—when they are just right. But notwithstanding their universal use they are one of the most difficult of vegetables to get in just the right condition for the table. You know from your own experience what a world of difference there is between the really fresh peas and those others that look almost the same but are a little tough and have a perceptible "skin" and a faintly bitter taste. You probably also know how few times in a season you have a chance to get all you want to eat of the former sort. It is well worth that little trouble that it requires to make sure of the first for your table. It is a matter of variety and of taking a few precautions in planting. Most planters neglect to take pains in regard to either. Many will go to the local hardware store or small florist and take whatever they happen to find there on faith. Others, having happened to discover some good variety or upon the recommendation of a neighbor, will buy a quart or two and plant them all at once, with the result that one or two lots may be had in prime condition and the others will be too old, as peas go by very quickly, especially in dry, hot weather, when a difference of two or three days may mean a difference between excellent and medium or even very poor quality. Only enough of one sort should be planted at any one time to yield two or three pickings; especially is this true of the dwarf varieties, which have a tendency to mature nearly the whole crop at once. Moreover, the public has been brought up to over-value the point of earliness. The extreme extra-early varieties have been urged upon gardeners, as if a difference of a few days in the first picking amounted to much more than the quality of the crop for the whole season. The truth of the matter is that these extra early sorts are not the same "goods" as the later ones.

There are in fact so many varieties of peas that people get mixed up in the varieties instead of first studying out the type to which they belong. The first thing the gardener should get settled definitely in his mind is the difference between the round-seeded, hardy early sorts and the "wrinkled" sorts, so called because the seeds of these when ripe present a shriveled-up or wrinkled appearance. The fact that some varieties of each sort have a dwarf habit of growth and others a tall is of secondary importance. In fact, the distinction between the dwarf and tall sorts is a very indefinite one. In rich soil or under favorable conditions the dwarfs will attain a height of three or four feet and require supports to keep them from becoming a hopeless tangle. The tall sorts, of course, yield a larger crop and one that matures more gradually, which is an advantage or disadvantage according to the way they are handled.



The dwarf sorts may be planted one to three feet apart, according to variety, the richness of the soil, and whether they are in single or double rows

But the main distinction, as I have said, should be made between the smooth-seeded and the wrinkled-seeded sorts. In quality the latter are as far ahead of the former as sweet corn is ahead of field corn, and several of the new varieties of the wrinkled sorts are, for all practical purposes, just as early as the old-fashioned, round-seeded, extra early. There is, in fact, no longer much reason why a private grower should continue to plant the smooth-seeded sorts, except possibly a very small quantity for the first picking. As to whether you will find it best to use the dwarf or the tall varieties of the wrinkled type, and what varieties of these to select, will of course depend upon individual conditions and your personal taste. It becomes more and more difficult, even in sub-

(*Continued on page* 66)



A house of this size, standing so near the street, should be treated as if directly on the sidewalk line. Vines for the walls, boxwood or bay trees in tubs beside the steps privet or box edgings for the entrance walk would be good

The Immediate Garden Treatment of a New House

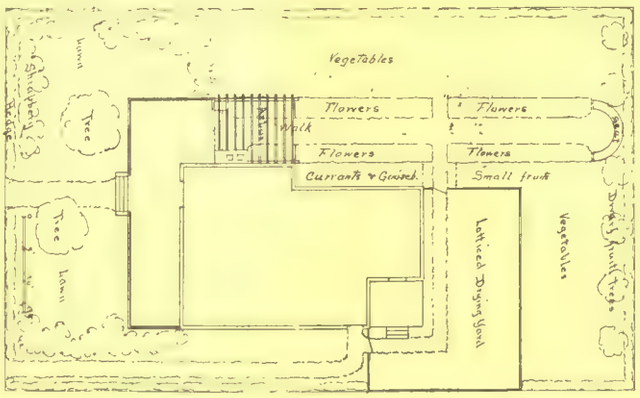
PLANTING PLANS DESIGNED TO REMOVE AS SOON AS POSSIBLE THE RAW APPEARANCE OF A NEWLY FINISHED HOME—THE FLOWERS AND SHRUBS FOR VARIOUS LOCATIONS

BY GRACE TABOR

STANDING stark and bare, on newly graded, stark, bare earth, the newly finished house is at once the despair as well as the delight of its possessor—if he have the gardener's esthetic sense. For it needs everything at once—and it needs everything in the greatest possible hurry, unless the denuded earth is to go on being an eyesore for an unendurable while.

There are many quick growing things that will furnish a semblance of clothing to a place in a short time, of course. But the real problem of the home-owner comes in the importance of his losing no time in establishing his permanent garden treatment; yet here is exactly where he is likely to lose if he is too free with the quick growing, soon dying material. All the rapid growing annuals are rank growers too, and take up a vast amount of space when their growth is attained, thus crowding out any permanent thing planted near them save a tree or a sizable shrub.

So to accomplish really good results there must be actually two separate plans of action: the one, for immediate effect, with the quick growing things; and the other, for permanent landscape development, with the permanent material. These two plans may and undoubtedly will lap onto each other to a considerable degree, but even if they do it will still be wise to keep them distinct and separate, as plans.



The planting plan for a house such as that shown below



Essentially the type of dwelling for "cottage gardening." Marigolds outlining the walk, vines on the trellis, vegetables and flower gardens, would be desirable

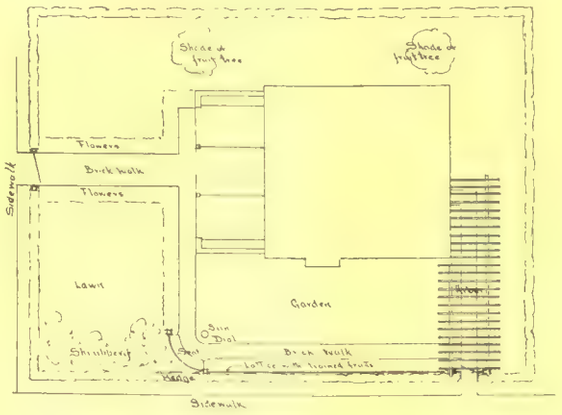
The first one to be developed, of course, is the one that is to last. Work that is to be permanent must be settled upon before the work that is immediate may have its turn, for only thus will the latter keep its proper place, and minimize the risk of sacrificing anything of the future, even for a single season, to the present.

Without knowing what the ultimate ideal for a home and its surroundings is, in any particular case, it is hardly possible to say what the permanent plan should embrace, of course; but for the sake of clearness, I am going to assume the place and the ideal, and proceed on this assumption to illustrate the method of going about the immediate treatment. Let us suppose the house

to stand on a plot anywhere from 50 by 100 feet to a half acre in size; to have porches, as houses with us usually do; and let us suppose the ultimate ideal includes seclusion from the highway, flowers all the season through, a vegetable garden, some fruit—and a general atmosphere of snug comfort and homeliness.

The initial step towards the permanent development of these features is, as we have seen, a definite plan for the whole, and this plan should be set down on paper. The initial step in a plan is inclosure; the next is entrance; the next is division into the units necessary to realize the ideal adopted, with suitable distribution of these; and the next and final is planting—or the chart of planting from which actual work is to be done.

After all this is done—and not until it is done—comes the initial step in the work for immediate effect. And this is really not an actual step at all, but simply a close study of the whole situation as it lies before you on the map of the place which these various activities have helped you to develop. Whatever is to be done towards the much desired instant result, must be done within and along the general lines of this permanent plan.



For the house shown on this page this plan is adaptable. It affords privacy as well as beauty

And here a choice between two lines of action must be made. It is possible to carry out the permanent plan, in its entirety, with temporary material, waiting until fall to plant any of the permanent stuff. Or you may develop a secondary plan for the temporary and "immediate effect" material, and plant a great deal of that which is permanent along with the temporary things, at once.

It is perhaps less trouble to do the former; but it is quite as certainly better to do the latter. For the sooner things of slow growth—which all permanent things are, compared to annuals—are beginning to establish themselves, the better for the effect next year. Some of them, to be sure, will make quite as good a showing then if they wait until fall for their planting, but others will not. Moreover, the annual flowers and temporary things will not have ended their display when it is time to put the permanent stuff in their places; and you will therefore have to uproot many things right in their prime—and endure a return to almost the barren state of the beginning, along toward the end of the summer.

The combination which insures the very best results for this year and for next is made up of the trees and a portion of the shrubs—if there are shrubs; the background specimens usually—which are to comprise the permanent planting; hedges if these are specified, and all the hardy vines. Then plenty of annual vines, together with such rank growing annual plants as are adapted to the positions of those foreground shrubs, which will subsequently be planted, and plenty of quick growing annual flowers.

The idea of using an "annual" as a substitute for a shrub seems rather far-fetched at first thought, and of course there are not many suited to such a position—nor do I consider it good garden practice by any means, save as it serves such a purpose as the one we are considering. Among the sunflowers there are four or five equal to such a demand, however; and there is the great castor bean in at least two of its varieties; and cosmos, dahlias, the giant spider plant, love-lies-bleeding, a tobacco, and some grasses. And half this number will fill the requirements of any place.

Go over the place itself carefully, after your permanent plan has been developed, and see what its most crying needs are; and record these with a tiny cross on the planting plan. Seclusion, suppose we say, at one point is imperative, immediately; shade for a particularly hot corner; clothing around the base of an ugly porch foundation; something to soften the hard lines of granolithic walk that leads in from the street; something to give emphasis to the entrance—or to the main entrance, if there are two (a main entrance should always express distinction and focus attention from without); and so on. These requirements are the ones which quick growing, temporary stuff must meet for this first year; so at once you know that in these places the permanent material is not to go, as yet.



The position of this house upon its plot makes the street side the only available space for gardening. Hence the lattice and screen shown in the plan above

After all this is determined, it is then a matter of suitably adapting the temporary plants available, so that they will serve the purpose in hand. Nothing among them is more suited to taking the place of a shrubbery screen than the *Ricinus*. *Ricinus Zanzibariensis* grows eight to ten feet in height, while *R. Cambodgiensis* stops at about five feet; thus just these two in combination may be grouped to make a very dense and effective screen. Or a screen of the taller *Ricinus* as a background with double chrysanthemum-flowered sunflower massed against it may be planted, if flowers as well as foliage are desired in that particular spot or direction.

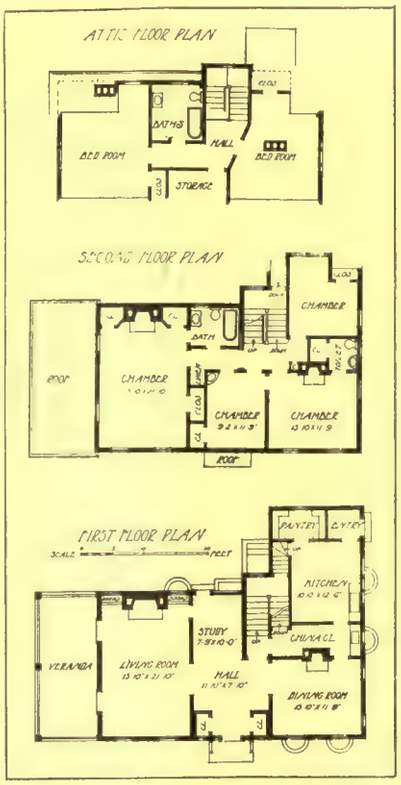
(*Continued on page* 64)

The Cost of Different Kinds of Building

A COMPARISON OF THE BUILDING MATERIAL COST APPLIED TO THREE CHARACTERISTIC HOUSES, WITH A CONSIDERATION OF THE RELATIVE FIRST COST, UP-KEEP AND INSURANCE NECESSARY FOR A PERIOD OF FIFTEEN YEARS

BY GEORGE HUNT INGRAHAM

THERE was a time in this big, new country of ours when the forests were a bugbear to the scattered inhabitants and a great hindrance to the cultivation of the soil. The cry was, "Cut the trees down and burn them up to get them out of the way as soon as possible." In the country districts of to-day there is the same disregard of the forests, and the government has had much difficulty in arousing any sentiment for the conservation of our timber. At that time lumber was very cheap, and houses could be built very quickly with little expense. They were scattered, and there was less danger from fire. If a house burned down, one had merely to step into one's back yard for new material. To-day, with all the changed conditions, lumber is high, and we are slowly learning to conserve our forests for use where no other material will answer, and to look for a safer and more permanent material for exterior construction. We are fast becoming an old world and must adopt the customs of the old worlds. There, the more permanent materials have been long in use, and there it has been often found that a well constructed tile roof is in perfect condition after three hundred years, when the wooden shell underneath is crumbling away. Our white pine trees, once so numerous, are now few, and white pine lumber is very much increased in cost. Fortunately to take its place other materials are at hand. Bricks are easily made and Portland cement is far cheaper than it used to be, so that now, when a man wants to build a house for himself, let him first choose an architect who understands the relative cost of materials, and who will plan a simple, dignified house, with few angles, that will be of the least expense to take care of as the years go by, and one that will not be a menace, but rather a permanent, artistic addition to his surroundings. If such buildings are in favor, our travelers on their return from Europe will not feel that many of our city districts are in comparison delapidated, unsightly.



Simplicity in plan (that is, a house of oblong dimensions without too many angles and corners) not only gives a more artistic and dignified result, but at the same time simplifies the cost, and a house so constructed in more permanent materials, as against a more complicated design in wood, would give the balance in favor of the simpler and more permanent construction.

The first thing a house builder should do is to select a good architect—one who is familiar with the better and more permanent types of construction—and not stint him too much on the cost of the exterior of the building. It would be better to give up some elaborate interior effect or mahogany finish for a more permanent exterior. Once have a good shell on the outside walls and what is saved on repairs can be put aside for the expense of making over a room later on, or for more elaborate decoration of the interior.



House No. 1 shows a moderate cost plan, with but one variation from the rectangular. It is a good example of an appropriate use of hollow tile and stucco in an unpretentious house, showing its adaptability to fit well into the situation. Putnam & Cox, architects

There are various types of good wall construction that a house builder should consider, namely:

(1) Brick—a good red water-struck or the so-called tapestry bricks. A brick house for its most artistic results should always verge on the red shades, the darker the better, and never on the yellows. White or light joints and wide joints give more character to a red brick structure.

(2) A frame house with brick veneer makes a cheaper substitute for brick, but only has one merit—that it is better than either clapboards or



House No. 2 has a wood frame and is over wire lath. The photograph here shows an interesting effect of the architect's planning to create a unified effect in a rectangular house. It will be noticed that the three doorways are treated almost exactly the same and have the effect of the repetition of a unit design. Although the house is large it is compact. George Hunt Ingraham, architect

shingles, both in qualities of fire resistance and of permanence.

(3) Fireproof terra cotta blocks, of which there are several on the market, finished on the outside with cement stucco, gives a very permanent and artistic building. The stucco should never be the natural cement color, but either white cement, light grays, or light yellows.

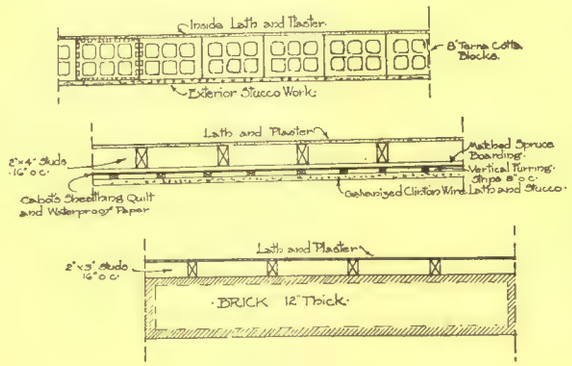
(4) A cheaper and good effect may be obtained with wood construction and wire lathing and stucco, but the advantage is very little in its favor when one considers durability and fireproof qualities.

The roofs should be preferably tile construction or slate. On the simplicity of the roof depends also the economy of construction as well as the dignity of appearance.

To illustrate the above points more clearly, three houses which were actually built and whose plans and exteriors are here given were taken and the costs estimated, exclusive of heating, plumbing, electric work, interior decorations, and lighting fixtures, because the interior work is subject to a wide variation of cost according to the design and materials used, kind of heating, and number of plumbing fixtures.

Of these three houses, Putnam & Cox were the architects of number one, George Hunt Ingraham of number two, and James Purdon of number three.

House number one is built of terra cotta blocks stuccoed. House number two is built of wood frame, wire lathed and stuccoed. House number three is built of brick.



Details of wall construction used in the houses described

Table Number I gives the cost of wood construction.

TABLE I

	Wire lath and stucco	Cypress siding (painted white)	Clapboards (painted white)	Shingles (stained)
No. 1.....	$8,100.00	$7,800.00	$7,800.00	$7,875.00
No. 2.....	16,970.00	16,400.00	16,500.00	16,200.00
No. 3.....	19,685.00	19,625.00	19,625.00	19,625.00
The cost per cubic foot on the above figures:				
No. 1, 34,089 cu. ft.,	23c.	23c.	23c.	23c.
No. 2, 84,837 cu. ft.,	20c.	19c.	19c.	19c.
No. 3, 72,380 cu. ft.,	27c.	27c.	27c.	27c.

Table Number II gives the cost if built of brick or terra cotta blocks stuccoed.

TABLE II

	Brick	Stucco on Tile
No. 1	$8,820.00	$8,580.00
No. 2	17,125.00	17,465.00
No. 3.	21,780.00	20,900.00

The cost per cubic foot on the above figures:

No. 1, 34,089 cu. ft.	26c.	25c.
No. 2, 84,837 cu. ft.	20c.	20½c.
No. 3, 72,380 cu. ft.	30c.	29c.

The per cent increase in cost of brick construction over wood and over wire lath stuccoed is, respectively, as follows:

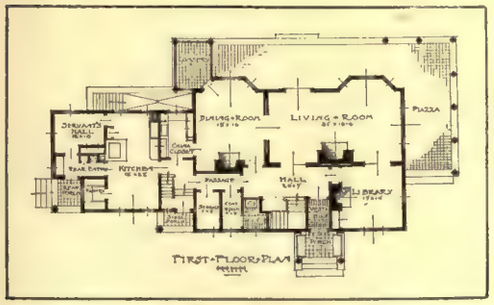
No. 1	12.71%	8.89%
No. 2	4.63%	.91%
No. 3	10.98%	10.64%

The per cent increase in cost of terra cotta blocks stuccoed over wood and over wire lath and stucco is, respectively, as follows:

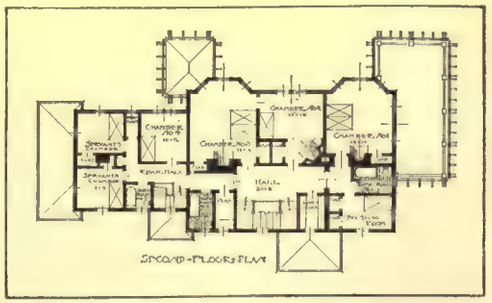
No. 1	9.65%	5.93%
No. 2	6.72%	2.92%
No. 3	6.50½	6.17%

The types of wall construction for the three houses are shown above in diagrams.

Now let us consider the insurance rates on the different types of construction given by the insurance companies. These are shown by Table III.



House No. 2 is more elaborate than house No. 1, and its contents is more by fifty thausand cubic feet



Though house No. 2 is on a larger scale than house No. 1, its cost is not so very much more

TABLE III

	Cost for 5 years	Cost for 15 years
Number 1—		
Wood construction (wire lathed and stuccoed)..	75c. per 100	$182.25
Wood construction (siding, clapboards, shingles)..	75c. per 100	175.00
Brick	50c. per 100	132.50
Terra cotta blocks stuccoed	50c. per 100	128.70
Number 2—		
Wood construction (wire lathed and stuccoed)..	75c. per 100	375.82
Wood construction (siding, clapboards, shingles)..	75c. per 100	371.25
Brick	50c. per 100	256.87
Terra cotta blocks stuccoed	50c. per 100	261.97
Number 3—		
Wood construction (wire lathed and stuccoed)....	75c. per 100	442.91
Wood construction (siding, clapboards, shingles)..	75c. per 100	441.56
Brick	50c. per 100	326.70
Terra cotta blocks stuccoed	50c. per 100	313.50

Brick Construction—	Number 1	Number 2	Number 3
Original cost	$8,820.00	$17,125.00	$21,780.00
Repairs	375.00	525.00	525.00
Insurance	132.50	256.87	326.70
Total	$9,327.50	$17,906.87	$22,631.70
Five per cent interest on difference in original cost over wood construction..	765.00	543.75	1,616.25
Total	$10,092.50	$18,450.62	$24,247.95
Terra Cotta Blocks Stuccoed—			
Original cost	$8,580.00	$17,465.00	$20,900.00
Repairs	375.00	525.00	525.00
Insurance	128.70	261.97	313.50
Total	$9,083.70	$18,251.97	$21,738.50
Five per cent interest on difference in original cost over wood construction....	585.00	798.75	956.25
Total	$9,668.70	$19,050.72	$22,694.75

The repairs on the various types should also be considered in estimating the cost. It is allowed that the clapboard finished house would need painting every three years after the first three years, besides general repairs to outside woodwork. Of course, where cypress shingles are used and where some of the prepared stains are employed, the longevity of the woodwork is somewhat extended. The replacing of shingle roofs has not been considered in making out Table IV, which is given to show all other repairs that are ordinarily to be considered.



House No. 3 is of brick construction, built so as to produce the best fabric effect. James Purdon, architect

It can be readily seen from these figures that the more permanent building is the more economical in the end. The main object of this article is to make the prospective housebuilder feel that he owes it to himself, and also to the community in which he lives, to build the outside of his dwelling of as permanent a character as possible, and also to make it a credit to his neighborhood.

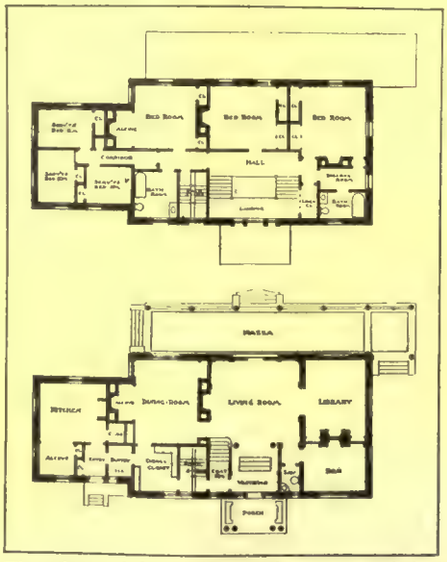
Let us hope that the plea for more permanent construction has not been made in vain.

There is still a word to be said in regard to variation in building cost. Beside the plan, the location influences this materially. In some districts labor is high, and building costs consequently high. Transportation figures in also: the cost of carriage into some localities makes it prohibitive to use certain foreign building materials. The safest rule is that one of common sense, to use native materials. This is not only economy, but it is generally the most satisfactory esthetically. The reason figures are misleading in the building magazines is due to these differences in construction cost owing to localities. A short time ago this magazine made a canvas of the architects all over the country and got figures for the construction of a small suburban house. The plans, bill of materials and specification of this house were sent to architects all over the country. The following variations are interesting to study in this connection. In New York City and vicinity, where the building trades are most strongly organized, the cost was $4,300; in Philadelphia suburbs it was from ten to fifteen per cent cheaper; Maine, $3,400; Southern New England, a little in excess of this; the Middle South, Kentucky, Maryland, etc., $3,000; Chicago, $3,800; the Middle Western States, such as Ohio, Michigan and Iowa, $2,550 to $4,000; Pacific Coast Northwest, $2,000 to $3,200; Colorado, average $3,100 to $3,200; Southwest (Arizona, New Mexico), $2,800 to $3,000. Though these figures do not represent the most careful analysis of building conditions, they are a fair indication of the geographical factor in cost.

TABLE IV

	Average Cost per Year for Painting and Repairs	Total Cost for 15 Years
Number 1—		
Wood (wire lathed and stuccoed)	$25.00*	$375.00*
Wood (siding, clapboards, shingles)	75.00	1,125.00
Brick	25.00*	375.00*
Terra cotta blocks stuccoed	25.00*	375.00*
Number 2—		
Wood (wire lathed and stuccoed)	35.00*	525.00*
Wood (siding, clapboards, shingles)	100.00	1,500.00
Brick	35.00*	525.00*
Terra cotta blocks stuccoed	35.00*	525.00*
Number 3—		
Wood (wire lathed and stuccoed)	35.00*	525.00*
Wood (siding, clapboards, shingles)	100.00	1,500.00
Brick	35.00*	525.00*
Terra cotta blocks stuccoed	35.00*	525.00*

* These figures are for painting and repairs on exterior woodwork only. No attempt has been made to give the cost for upkeep of a wire lath and stucco wall. The efficiency of this type of construction, as is generally recognized, is dependent on the style of house, its location and exposure, quality of workmanship, quality of materials used, etc. But it is no exaggeration to say that in the matter of durability alone it will not compare with a wall built of brick or one built of terra cotta blocks and stucco, on either of which types the cost of upkeep would be very little, not only for 15 years but for a very much longer period.



The plans of house No. 3 show a straightforward plan like No. 2, but somewhat simpler

The comparative costs after fifteen years' occupancy are:

TABLE V

Wood (Siding, Clapboards, Shingles)—	Number 1	Number 2	Number 3
Original cost	$7,800.00	$16,400.00	$19,625.00
Repairs	1,125.00	1,500.00	1,500.00
Insurance	175.00	371.25	441.56
Totals	$9,100.00	$18,271.25	$21,566.56
Wood (wire lathed and stuccoed)—			
Original cost	$8,100.00	$16,970.00	$19,685.00
Repairs	375.00	525.00	525.00
Insurance	182.25	375.82	442.91
Totals	$8,657.25	$17,870.82	$20,652.91
Five per cent interest on difference in original cost over wood construction...	225.00	427.50	45.00
Total	$8,882.25	$18,298.32	$20,697.91

The Water Supply for the Country Place

VARIOUS WAYS OF SOLVING THE PROBLEM FOR THE HOME WHICH IS NOT REACHED BY THE MUNICIPAL SYSTEM—THE ADVANTAGES AND INSTALLATIONS OF THE BEST POWER PLANTS

BY GEORGE ETHELBERT WALSH

THERE is no question more perplexing to the country resident than that of a good and reliable water supply, both for household and irrigation purposes, and while the problem may be solved for those who can tap a town or village water system it is far from being settled for those who live in the true country away from such modern conveniences. The independent water supply must then be worked out by the individual and according to circumstances. Each problem, it may be said, is a separate one, and must be treated accordingly.

The owner of a good well or pump which provides clean, sweet and wholesome drinking water is not inclined to give it up and substitute something less desirable. "We have the coolest and best water in the State," remarked the owner of a country place, "and the well is protected from all contamination. What more do I want?"

Notwithstanding this boastful announcement, the man had one of the poorest systems of water supply in his State. The water was all that was claimed for it, but it was obtained at a great waste of time and effort. All the water needed for the house—except a little rain water collected in barrels—and for the stock had to be drawn up by hand. They never wasted water there, for it was too expensive.

Near by was a pond, fed by a tiny brook, but this water was rarely used because it was located some distance below the level of the house. Stock were sometimes driven down there and watered, but that was all.

It never occurred to the man that the water from the pond could be piped up to the house and barn for general uses and for nearly everything except drinking, and the waste could be used for garden irrigation. With a hydraulic ram or a small gas engine pump located near the pond a generous water supply could have been obtained at very little cost.

The treatment of the individual water supply system falls under one of several classes, and one must be applied to every country place or farm in the country: windmill pumping station; hydraulic ram; gas-engine pump; gravity spring system, and rain storage.

The Department of Agriculture recently issued a bulletin deploring the abandonment of the good old windmill, for in many parts of the country it is still the best and most sensible method of securing water. It is true that the gasolene engine pump has been substituted for the windmill in many parts of the country with excellent results, but this method costs more and is not always so satisfactory.

One of the reasons for general abandonment of the windmill was its unreliability. That is, the wind could not be depended upon to do the pumping in the season when water is most in demand. This was due entirely to the inadequacy of the storage tank. A tank holding less than a thousand gallons of water was generally the maximum size for these windmill pumping stations. That amount of water would not last the average family for household uses much longer than a week, leaving nothing for stock and irrigation.

Some of the most modern windmill equipments have solved this question by the installation of big water tanks, built of field stones and concrete, in connection with the windmill. These tanks or reservoirs are built to-day big enough to hold fifty and sixty thousand gallons of water. They are built up in circular form of field stones, with a concrete bottom and inside, to a height of thirty or forty feet. They are independent of the windmill, except that the overflow pipe drips into them. The water stored in them provides throughout the spring, summer and autumn all that may be needed for stock, irrigation and fountain use.

Such a reservoir built of field stones and concrete forms a really ornamental feature to the country place, and if covered with ivy or other plants the outside walls are showy and striking. A stone reservoir of this nature, thirty feet high, and holding fifty or sixty thousand gallons of water, can be built for about $150 if the field stones can be obtained on or near the place.

The hydraulic ram is an old system of pumping up water from a lower to higher level, and its use to-day is satisfactory where a nearby or distant pond can be utilized. Many places have somewhere on them such a supply of water, but owing to its low level it is considered of little use. There is no pond, lake or stream of water, no matter how much lower than the level of the house and garden it may be, that cannot be utilized for irrigation purposes or household and stock use by means of a hydraulic ram.

A first-class ram requires little attention and should run an entire season without repairs. The hydraulic ram was invented in 1796, but many improvements have been made on it to-day, and the double-acting ram does the work that could not be obtained from the old-fashioned one. These rams are now made to operate with a fall as small as eighteen inches and up to fifty feet. Water can be raised to practically any height by using a battery of several rams. The advantages of such a water pumping installation is that any pond or lake of impure water can be used for the motive power, and water a considerable distance off in a spring can be pumped to the house, or impure pond water can be pumped to a reservoir for irrigation purposes.

The gas engine pump has come into vogue in the last few years in all parts of the country. It is a cheap and reliable system that anybody can operate. It takes no more brains to keep it going and operate it than to start the engine in the automobile or motorboat.

The gas engine can be placed near a pond, lake, brook or river, and with the intake pipe running far out good water can be pumped up to the house or barn. The cost for piping depends upon the distance from the house or barn. Good gasolene pumping outfits can be purchased from $300 upward. The greater the distance the water must be pumped and the higher the altitude, the heavier must be the engine to do the work.

The gasolene pumping engine consumes very little gas, not more than a few cents' worth an hour, and once started it will continue going without attention until stopped. One hour of pumping will furnish all the water needed for barn and household use in a day. For irrigation purposes the gasolene pump can be run for an hour a day and supply sufficient water for an acre of land in each twenty-four hours. In the worst summer drought the garden can thus be kept moist and well watered at a cost of only a few cents a day.

Gravity spring systems of obtaining water for irrigation and general use are so simple that where the proper conditions prevail they should not be neglected by any one. The idea consists simply in running a long pipe from some spring, brook or pond

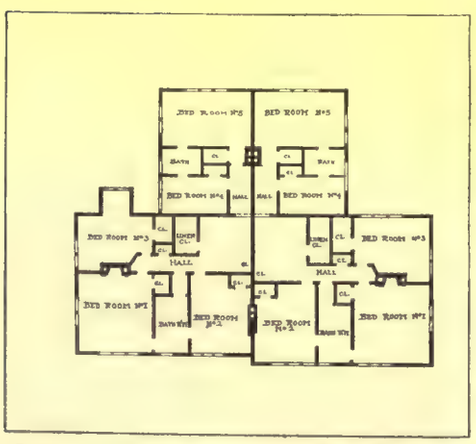
(*Continued on page 72*)



By a double house is meant a building that provides accommodations for two families, but when properly planned the life in each should be absolutely independent of the other. Though in close proximity, the piazzas or verandas should not look out upon each other

A WELL PLANNED DOUBLE HOUSE, LAWRENCE PARK, N. Y.

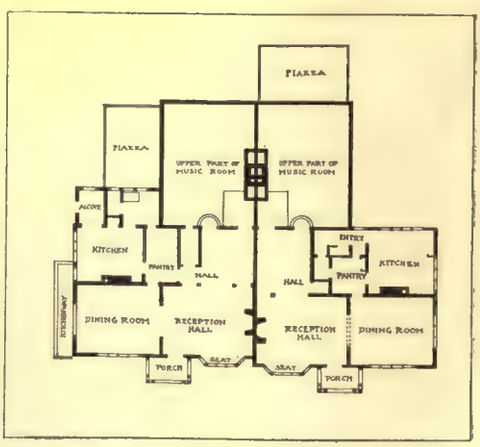
Bates & How, Architects



Owing to the difference in level between the front and the back of the house, there is a pleasing variety of plan



The main entrance is upon the upper street and is particularly attractive with its leaded casements and half-timber work



The planning is so compact that there is an exceptional amount of room, a part of which may be completely shut off from the rest of the floor



From the vestibuled porch the main entrance leads directly to a reception hall, with beamed ceiling and Caen stone fireplace. At the back of the reception room the stair leads down to the music room, and up to the bedroom floors



The steep slope of the lawn at the rear provides room above the basement—which contains the laundry, staircases, coal, storage, etc.—for service quarters. Above these, where the large mullioned window is, is the high-ceilinged music room



The architects have treated an interesting lot problem very cleverly. The drop of the lawn is not only from the front of the house to the back, but the property has also a longitudinal slope. These differences suggested the double house, and it worked out exceedingly well in providing large rooms and making the life of both places independent, one house from the other



Inside the House

Timely Suggestions and Answers to Correspondents



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

Real Hanging Baskets

NOWADAYS basket-making is a very popular recreation, and attractive forms for many purposes are being made in great numbers. Many designs for use in picking or displaying flowers are to be seen, but comparatively few of the makers seem to realize how readily these baskets may be made to serve as hanging baskets for growing plants.

In every home there are many places where such baskets can be hung to advantage inside the house or about the porch. It is only necessary to weave the basket about a flower pot of any size desired. The basket may be made so that the pot can be removed or so that it is permanently in place as one prefers. When done it is only necessary to fill with one or more growing plants and it is ready to hang up.

Large baskets holding shallow pots six or eight inches in diameter are particularly desirable for porches and verandas. They may be filled with asparagus fern or other foliage plants to get a very decorative effect.

Watering is easily done, either in the usual way or by plunging the pot into water until the soil is saturated.

A Baker's Dozen of Old English Pitchers

IN this group of a baker's dozen of Old English pitchers one sees pieces of attractive Staffordshire ware. For instance, the low, pink and white cream pitcher at the extreme left in the foreground shows a farmer in the act of sowing the seed on the newly turned soil; and ploughman and horses are easily discerned in the background. This is the only one of the baker's dozen of pitchers which has feet; the charmingly designed shell-like feet giving an especial point of beauty to this pink piece of Staffordshire. The sugar-bowl which matches this pitcher can be seen in the interesting collection of old china in the Metropolitan Museum of Fine Arts in New York City, having been donated to it by a lover of antiques.

The next pitcher to the right in the first line is a pale blue-and-white one, octagonal. This is a picturesque view piece with "a lover and his lass" in the foreground. The figures of 10 are impressed in its bottom. The two dark pitchers following are luster ones, the first, a brown one with a handsome royal blue lower band, which really makes the whole lower part of the pitcher. On this band are a rosebud with leaves, and set by itself a figure of a woman in green drapery of Grecian style, standing by an urn with red flowers, with yellow in the composition also. The other luster one, which is also brown, has a gold border in delicate tracery, and on the main part of the piece, on both sides, a pagoda and temple with cypress trees is wrought out in conventional design on this decagonally formed pitcher.

The pitcher at the extreme right in the second row is one which has a hunting scene in dark pink on white, and this piece as well as the first two has a corresponding sugar-bowl. Coming back toward the left is an octagonal Mulberry pitcher, with cypress trees and temple with two different styles of urns in the foreground. An X is impressed in the bottom of this Staffordshire bit.



Properly hung, the woven basket is excellent for growing ferns

Then comes a charmingly shaped, low, blue- and-white one, with a sylvan scene. Little Boy Blue with his horn and dog is depicted in the foreground, while in the distance through the fields a towered homestead is seen. A fine border is a feature of this piece and on the bottom of it a blue X is printed.

The next, a Mulberry one and octagonal, has a very deep border characterizing it, and the scene is of the pagoda variety. The last of the second line at the left is a fine china pitcher with gilt sprigs on the white surface. If "little pitchers have big ears," they have as well large elements of beauty in design and colorings, and are of value as antiques, as seen in the collection before us.

On the back row beginning at the left we find pitchers of a larger growth. The first one is another of the pale blue-and-white variety, again octagonal with pagoda and cypress trees for its design. On the bottom of the piece is printed in blue the word Davenport, and in a blue ellipse, which is surmounted by a crown and "Ironstone," is the word Friburg. A handsome, large pitcher in hexagonal form follows, bearing a beautiful design, consisting of a red earthernware pitcher, holding roses and a purplish tulip, with touches of yellow and green among the flowers. At the base of the slender-necked pitcher is a quiver full of arrows. Two birds with colors of the parrakeet complete the elaborate central design, while a moss-rose bud and leaf are found directly under the spout of the piece. The border, combining almost the same floral selections as those just described as being in the main group of flowers, is repeated in a half inch decoration at the top of the pitcher inside. On the bottom is found the mark of two glazed pink luster X's.

A Ridgway piece follows in dark pink and white; "Western Star" being printed in pink on the bottom, with a beehive and urn with small flowers and the letters "W. R." The deep outside border is a striking feature in this ample product, which holds two and one-half quarts—a worthy representation of the giver's heart, for this with several others of the baker's dozen has the added value of gift pitchers. The rest were bought, begged and might even have been stolen had they not come to be possessions legitimately.

The last is the beautifully shaped pink-and-white Mayer piece, with very graceful handle and fine coloring and design of Chinese junks with a wealth of floral representations and urns shaded by cypress trees. The border inside and out repeats in varied forms the central design, and the back of the handle has a charming arrangement in geometrical markings in dark pink, large and small polka dots. On the bottom of the piece is printed in pink, "T. Mayer, Longport," with a full figured lion rampant, and in a scroll with ferns can be seen the name "Canova." In these thirteen treasures, measuring from four inches to eight inches in height and holding from two gills to two and a half quarts, with a great variety of colors, designs and decorations (for no two are alike), are seen delightful samples of the work of the famous Staffordshire potters.

Christmas for the Birds

ONE of the prettiest Yuletide customs is that of the people of Sweden. On Christmas morning in passing through the country, one sees house after house,



Being kept indoors is not necessarily harmful to the Boston fern

each with a sheaf of wheat hanging at the top of a long pole in the door yard. This is the Christmas dinner of the birds, for the Swede at home would not think of sitting down to his own Christmas festivities without first thinking of the little feathered folk that are prevented at that time of year from gathering their good cheer themselves.

A Greenhouse Substitute

THE flower lover who wants, but cannot afford, a greenhouse will find the following plan just as successful in all ways, and more so in some, than an expensive greenhouse. Take white muslin or cloth and stretch over a foundation the desired size, so that the muslin covers sides and top. Tack securely. Have a narrow alleyway through the center and on one side have a bench for plants, and on the other a bed filled with fine sand and dirt in which to start young plants or seeds.

The plants will grow as well as in a glass greenhouse, and when removed out-of-doors or in the sitting room will not be affected by the change as they would if they came from a glass greenhouse. In winter put boards on the top, lapped one over the other.

Fern Pointers

IF properly cared for, Boston ferns often grow to enormous size, like this one, which is five years old, and has always been kept indoors near a window, as shown in the photograph. From tip to tip of the fronds is eight feet—that is, from top to bottom. The plant has been nourished about twice a week with a weak solution of "fish scrap" water—about one tablespoonful of scrap to a gallon of water.

In the care of ferns the crowns should be kept well above the soil, which should be continuously damp, but not sodden. The foliage must be kept dry, letting the plant drink from the roots.

Northern light is preferable to southern exposure, and be careful not to use very cold water for ferns, and do not put tender ferns out in the rain. Maidenhair ferns will not thrive where there is gas lighting; this variety, too, requires special care in watering, for if once permitted to dry the fronds shrivel quickly.



A baker's dozen of Old English pitchers, the product of the Staffordshire potters. They include a variety of form, size and color and design of decoration that makes them attractive and extremely decorative. No two are alike, yet all are good

THE GARDENER'S CALENDAR

Wherein is laid out his daily work for the year, together with sundry facts useful or interesting.

First Month
Morning Star, Venus

JANUARY, 1914

Thirty-one Days
Evening Star, Saturn



THIS Calendar of the gardener's labors is aimed as a reminder for undertaking all his tasks in season. It is fitted to the latitude of the Middle States, but its service should be available for the whole country if it be remembered that for every one hundred miles north or south there is a difference of from five to seven days later or earlier in performing garden operations.

Sunday

4. ☽ First quar. 8h. 9m. A. M.
Make up a list of garden books to be studied; order at once and master the problems of fertilizing, spraying and pruning as well as general culture.

11. ☽ Inspect spraying apparatus, tools, fertilizers and insecticides on hand; make a list of all requirements, repairs to be made, etc., and hang it in sight where each thing may be checked off as done.

18. ☾ Last quar. 7h. 30m. P. M.
The nearer the time of the Moon's change to mid*night* the fairer the weather for the next seven days.
Bring lilies to be forced for Easter into warmth and light.

25. ☾ Collect plenty of manure and arrange to have a sheltered place for this so as to keep it on hand; it is always needed, and is more readily obtained now than later when everyone is ready for it.

Monday

5. ☽ Mars becomes evening star also.
Look around outdoors; note trees and shrubs needed to improve winter effects; make a list and locate them on plan you have made, to be planted later.

12. ☽ Full moon 12h. 9m. A. M.
Sow lettuce in frame and protect; sow pansy, verbena, carnation, heliotrope, marguerites, forget-me-nots and mignonette in flats.

19. ☾ Order new tools, labels, stakes, etc.; all necessary supplies; sprays and containers for same, etc. Keep suet where birds can get it.

26. ☽ New Moon 1h. 34m. A. M.
The nearer the time of the Moon's change to mid*day* the more foul and wet the weather for the next seven days.

Tuesday

6. ☽ Twelfth Night—The visit of the Wise Men, guided by the Star in the East; Epiphany.
Build hotbed frames or look old frames over and repair; get sash ready, etc.

13. ☽ Make a planting plan of vegetable garden to scale, with successive crops and plantings indicated; mount on heavy cardboard or cloth for "field service."

20. ☾ Put tool house or room in order; provide a place for everything, even to twine, nails, scissors and the smallest trifles; make a cupboard *with lock* for all sprays, poisons, etc.

27. ☽ Order seeds and plants for spring shipment; the choice varieties are early exhausted, and the early orders stand the best chance, naturally.

Wednesday

7. ☽ "Old Christmas Day."
Sow a few seeds of peas and spinach in frames and protect with straw or mats.

14. ☽ Spray everything of woody growth with lime-sulphur wash for San José and other scale; peach, plum, cherry, pear and apple are attacked in order named; also small fruits, roses and shrubs.

21. ☾ Stain old stakes green if this has never been done; paint a space for the plant name white, and write the names with waterproof ink when stakes are used.

28. ☽ Prune peach trees and anything that may be still left over from earlier pruning; do not prune early flowering shrubs, however, for this will sacrifice their bloom.

Thursday

1. ☽ 6627th year of Julian Period, 1914th year of Christian Era.
Try some radish seed, for fun, in a cold-frame well protected with straw or mats.

8. ☽ Make new flats if needed and prepare necessary space for them; 12″ x 15″ x 2½″ is the most convenient size.

15. ☽ Order sheep manure, allowing from 10 to 15 lbs. for every 100 sq. ft. of lawn surface.

First locomotive used in the U. S. 1831.

22. ☾ Prune and tie up grapes; make a special study of their fruiting system, however, before you do any cutting.

29. ☽ Complete the spraying of all woody plants for scale; do this work very thoroughly, as the spray must reach every branch and twig to be effective.
Wm. McKinley born, 1843.

Friday

2. ☽ Write to best nurseries and seedsmen for catalogues; look up horticultural lectures, etc., and attend; consider forming a Garden Club. Put out suet and water for the birds daily.

9. ☽ Prune, as they may need it, shade and fruit trees, small fruits and fall blooming shrubs; paint all wounds larger than a quarter of a dollar with Bordeaux Mixture to prevent infection.

16. ☽ Paint all tools, etc., that may need it; do not wait for a thing to look shabby before doing this; everything lasts better for being kept in good condition.

23. ☾ Prune currants and gooseberries; always plan to keep the center of a bush open to the light and air; and always know which the bearing wood is before pruning anything.

30. ☽ Top dress lawns with the pulverized sheep manure; do not use any common manure here, for it will introduce weeds and ruin the turf; omit manure entirely if you cannot get the sheep manure.

Saturday

3. ☽ Earth nearest the Sun.
Measure up your entire place and make a plan of it to scale, showing all planting done and indicate all to be done this year.

10. ☽ Prepare one or two flats with fine soil; water these to make them ready for sowing day after to-morrow.

17. ☽ Look over all evergreens carefully for insects or signs of other trouble; pines are subject to a very destructive rust; cut and burn affected trees as soon as discovered.

24. ☾ Save coal ash siftings and mix with the soil on heavy stiff spots in the garden or anywhere; study the theory of fertilizing and soil manipulation to know what your garden needs.

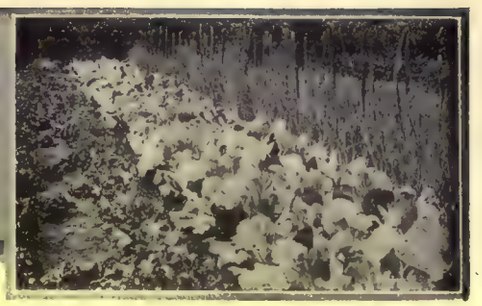
31. ☽ Start hydrangeas, spireas, ixias and freesias, to be ready for Easter, by bringing into warmth and light now; the lilies are, of course, well under way

"Who loves a Garden, loves a greenhouse, too."—Cowper "A winter's fog will freeze a dog!" Weather very unsettled at the beginning and end of the month



Garden Suggestions and Queries

The Vegetable Garden



CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening* and *Gardening Indoors and Under Glass*

Winter Activities

MOST of us who have even the smallest sort of a garden and place to look after find all we can possibly attend to to do in the spring months. Therefore, it is a wise and profitable course to take advantage of every warm day that comes along during January and February and get the few outside jobs which can be done at this season of the year cleaned up. Of these jobs the most important are spraying and pruning. Fruit growing during the last two generations has undergone quite a change. Formerly everyone who had a piece of ground the size of a door yard or larger set out a few fruit trees and enjoyed the apples, plumbs, peaches and cherries, which, except for an occasional "off season," grew about as easily and abundantly as grass by the roadside. Then with the coming of the peach "yellows," the San José scale, and a score of insects and diseases, fruit trees died out or were cut down, and only the commercial growers succeeded in getting any crops of fruit. Now, however, not only can we grow better fruit than ever before, but the man with a small place and only a few trees can produce high quality fruit that will pay him a hundred times over for all the work he spends at it. But unless he is willing to prune and spray intelligently, he cannot expect any satisfactory results.

The apparatus for home spraying is simple: A small hand compressed air sprayer (which you should have not only for winter spraying but a hundred and one other purposes which will make its use necessary almost every week in the year) and an extension rod or bamboo pole with which to reach the higher branches. There are several types of nozzles, but one so constructed that it will not clog easily and will throw the spray in a fine mist should be selected; the type known as "goose-neck" is most convenient to use, as a simple turn of the wrist will take the place of several steps in turning the spray from one side of a branch to the other.

In all spraying, it is important to know first of all just what you are going after and what to use. The most common insects which can be reached by the winter or "dormant" sprays are the San José scale, which when numerous clusters in colonies which form a crust or scaly appearance on the bark, though the individual specimens are only about the size of a pin-head with a slightly raised center (if you have noticed minute red-edged spots on your apples or pears when harvesting last fall, your trees are sure to be infested with the scale); the oyster-shell scale, which is considerably larger, the scale or shell being in the shape of an oyster-shell about an eighth of an inch in length, under which careful inspection will reveal during the winter small whitish eggs; and the scurfy scale, also about an eighth of an inch long and pear-shaped, under which may be found eggs of a purplish color. To attack these you may use your choice of two forms of spray, one of the "miscible" or water-soluble oils, or lime-sulphur wash. Both are now put up in commercial preparations, so that the only thing necessary to do to use them is to mix them with water.



Pruning may be done any time between mid-winter and early spring

The so-called "dormant" sprays, if used at winter strength, must be applied before the buds open in the spring. The advantage of winter spraying, besides the economizing of time effected, is that a much stronger solution can be used, and, there being no foliage in the way, the trees may be covered more thoroughly.

Winter Pruning

ALONG with the spraying, adequate pruning is equally important. This should be done also any time between mid-winter and the time the buds swell in the spring. Very little equipment is needed: a small pruning saw (which will cost you from sixty cents to two dollars, according to the type and size), a good stout knife and a pair of pruning shears. If you have much of this work to do, apples, peaches, pears, cherries, currants, quinces, gooseberries, grapes—these should all be put into shape before the rush of spring work begins. Apples, pears and cherries will not need much attention if the trees have been well looked after in the past. Cut out any dead, broken or rubbing branches and cut off all suckers or sprouts. Peaches, where a strong growth of wood has been made, will require a little more severe treatment. They are more apt than the other sorts to overset and plenty of air and sunlight is absolutely necessary in order to secure good size and color.

Currants and gooseberries, especially the latter, should be quite severely pruned, but take out only wood that is over three years old, or new growth where it is too thick, as the best fruit is borne on two and three-year-old wood. The greatest enemy of gooseberries is mildew, and in order to prevent this it is necessary to have plenty of light and air reach every part of the plant. All branches which droop over and touch the ground should be cut off, and any which cross each other or rub together. Keep the gooseberries cut to a single stem, or two at the most.

Grapes require comparatively severe pruning. Where they have not been trained to a trellis by a regular system of pruning—that is, where the vine or vines, have been trained against a wall, house or over an arbor—the laterals should be cut back to within a few buds of the trunk.

Always in pruning keep an eye open for "black-knot" or diseased bark of any kind, and cut it out. Also pick any dried-up fruit or "mummies" which may still cling to the branches and burn them. Any cavities or holes should be dug out clean and filled with cement as soon as the weather gets warm enough for it to "set" without danger of freezing in the process.

EDITORIAL

ASTRONOMY AND THE GARDEN

SOMEWHERE midway between the grotesque superstition of the vulgar and the derisive skepticism of the ultra-scientific, it begins to seem probable that the truth about many things may lie. And so it is here that it may be well for us, as gardeners, to linger awhile, in contemplation of the orb of night. For the folk-lore of all the earth is rich in lunar prognostications; and where folk-lore gives credit, wise men have come to doubt the wisdom of doubting, even though they are unable to offer scientific explanations.

Of the moon's influence on the waters of the earth, there is no longer any doubt in any one's mind. That it influences the atmosphere and the gases enveloping our planet similarly with the waters, must be perfectly obvious; and that it exerts a mighty physical pull upon the solid portions as well as upon the fluidic subterranean matter, cannot rationally be denied. Indeed, subterranean tides are accepted by many scientists, if not by science generally. Why should not all this great influence and this tremendously powerful pull—powerful even though it is infinitesimal; it is calculated to be one sixteen-millionth of a given weight—affect vegetation, and indeed all life upon the globe? This is not to say, beyond scientific question of course, that it does—but the question is at least admissible; and the affirmative answer seems, to say the least, the more probable.

When white men first came to this continent, they found the red men here firmly fixed in the belief of the moon's great influence upon crops; and no one has ever questioned the American aborigine's acumen in matters pertaining to the great outdoors generally. And every race of men, everywhere on the globe, cherish these Moon beliefs, and are governed accordingly, except as science has shamed and frightened them out of being. And now even science, in the persons of some of its most eminent followers, is willing to admit the possibility of "a hidden, mysterious bond of a magnetic nature" between the moon and the earth. "Nothing proves or contradicts such a hypothesis, and it is possible that study in this direction might lead to interesting results."

Indeed it is "quite possible," and perhaps much more; therefore are we not, quite possibly, neglecting rich opportunities by failing to make such study? It would seem that we might be. So, in this belief, we shall offer our readers, during the coming year, encouragement and facility for such study, in the new "Gardener's Calendar" feature, inaugurated in this number of the magazine. Here will be found, month by month, and day by day, the data necessary for planting according to the phases of the moon, and for such other garden operations as are supposed to be under the influence of Diana.

This information is made with the hope that many will be sufficiently interested to keep a record of their gardening operations so timed, and to make reports of these at intervals during the summer, or a complete report at the end of the season, to the editor. In this way we may arrive at valuable conclusions and add something to the sum of useful human knowledge—always a consummation devoutly to be wished. To this end the directions of the "Calendar" will not be simply "bumcombe" reprints, but will be compiled, so far as may be possible, from sources as trustworthy and scientific as exist; and among these, folklore shall have the high place which alone is consistent with its importance.

As with all experimental work, comparative plantings are of course necessary to definite conclusions. Probably the fairest test is a pair of rows always, planted side by side, rather than in two portions of one row. This insures the same soil, moisture and light conditions for those things planted during the favorable, and the indifferent or unfavorable, periods; the two ends of a row very often differ materially in one or two or even all three of these.

THE BUILDING GAME

ALL things, as well as men, have their price," says the practical man. And he is right philosophically, but not practically speaking. The price of many things is dear experience, plodding searches after knowledge, caustic regrets—expensive mediums of exchange, it will be admitted, but these are not dollars.

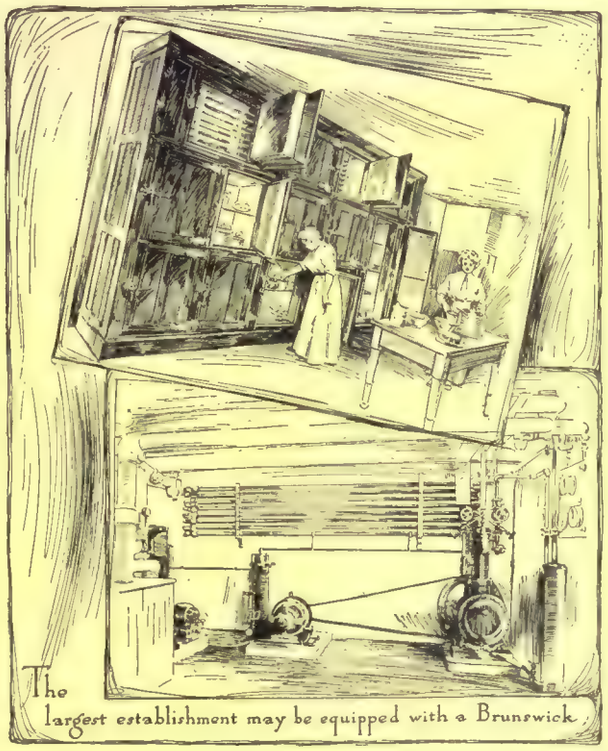
One of the things that money does not buy is a home. You may buy some one else's home, but you must make your own whether the shell is there, or you hire trained assistants for every detail of the process.

Most people undertake the labor gladly. They go into training, so to speak, and fairly live on a diet of building books, magazines and plans. It may be a bit severe upon the acquaintances of such individuals, but it is part of the cross of friendship to be resigned at the occasions when automobiles are purchased, families augmented, or houses built.

Barring the strain on one's intimates, the pleasure of launching the project of a new home is a delightful one and works a transformation upon individuals. Delicate, supine females become ranging scouts of the outlying districts in search of advantageous building lots; nor are they deterred by the discouragements of the most inclement skies. Likewise with the enthusiast in sport, whose language is mostly composed of the patois of the links and paddock; his conversation suddenly sounds like a reading in an architectural lexicon. The building game is an absorbing one and partakes of all the interest found in an engrossing recreation. It has perhaps as many intricacies to be mastered and requires as much study, but much of the experience of others may be substituted for the actual practice necessary to become proficient in minor pastimes.

Seriously, however, there is much to be learned by the house-builder before he can build right. HOUSE & GARDEN, therefore, tries each year to emphasize the salient points of the process; and though the course of instruction appears annually, we feel that the topic is of perpetual interest. It is hoped that the quasi-technical details will not appear discouraging to some. They are given so that the individual will know what are the desiderata in his new home; so that he can be competent to choose first his prime requisities and then between the alternatives of luxuries that his appropriation allows him.

General points stand out from this issue and bear underlining. First, a present tendency to consider plan before style, and second to insist on permanence before elaboration. Many of our best architects feel that after the plan has shaped itself about the client's requirements that the exigencies of the situation will determine the best type of building to erect. When a plan is decided upon that takes care of all the client's needs and desires, the architect's technical knowledge, bound by the canons of his craft, will find that the exterior design apparently suggests itself. Under such a method of procedure it will be apparent at once that the architect is freer to exert his creative genius, that he can develop a design that meets a given situation more exactly than where he has attempted to reproduce a style indigenous to a foreign locality or a different age. Coupled with this idea is the other restriction of type of construction. Not only are municipalities awakening to the need of building restrictions, and a more lasting, safe, fire-resisting structure, but architects themselves are active in this same field. It will thus be seen that the building game is working under revised rules, and the product should be a better home for the individual and the creation of untrammeled architecture.



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The Whole Process of the Building Game

(*Continued from page* 30)

the siding requiring paint renewal approximately every two or three years, while the shingles—particularly if of cypress or red wood—are kept in the best of condition by a dressing of oil at five-year-intervals.

Other questions of comparative cost are fully discussed elsewhere in this issue.

The design of your proposed home should be considered at the same time as the probable material, as the two must be closely related to produce harmony. Many home builders secure their ideas from the periodicals of general circulation or from those designed especially for the architect and builder; but it is rare indeed that a ready-made plan embodies your own idea in every particular, and in that case it is customary to allow the builder to make the proposed changes as the work progresses. There is no question but that many exquisite or sensible designs are published, and that practically every idea of the kind which finds its way into print has some merit; the study of such articles and descriptions cannot fail to give you a clearer idea of your own particular needs.

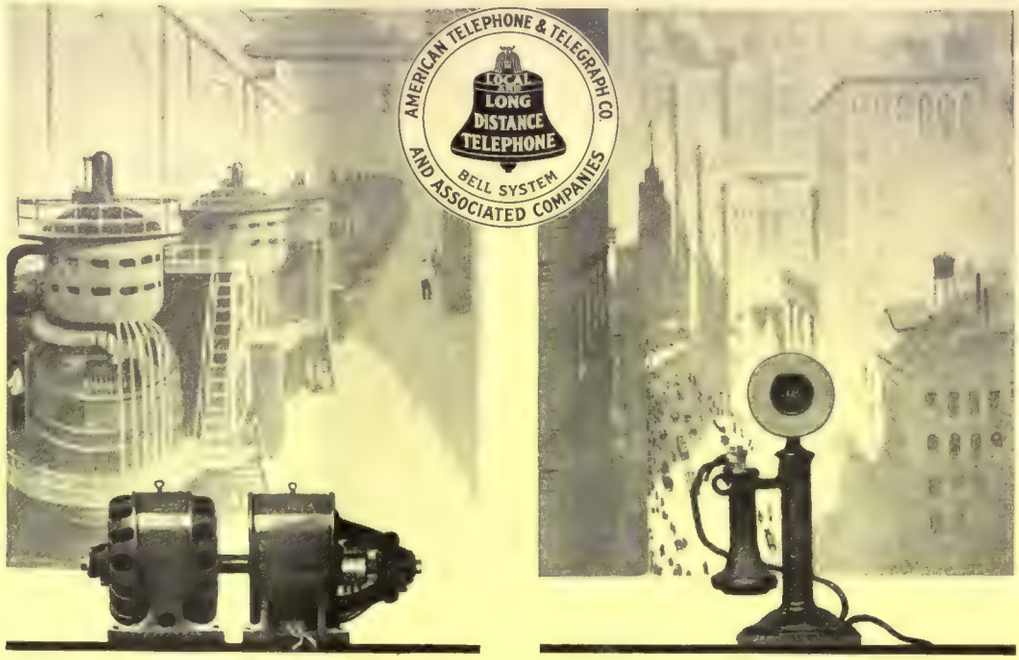
The most satisfactory of all methods is to employ a competent architect to embody your ideas in technical form; he will not only draw your plans and, what is more important still, provide proper specifications, but he will act in your interest throughout the work and not only see that the builder works according to these plans and specifications, but will force him to discard any defective material. The architects' charges, in the neighborhood of large cities for moderate-sized residence work, generally are about seven and a half per cent of the total cost of the work. This includes complete studies, specifications and supervision. As with all other professions, the specialist of prominence can demand more for his services than his other co-workers, and ten per cent is not uncommon. Some architects in rural districts do work for less than this amount, but they have not educated their clients to the recognition that most careful work and detailed drawings merit at least the return quoted above. The American Institute of Architects recommends a minimum charge of six per cent for complete work of general character; and as the return on small house designs is less in proportion to the labor than on a large building construction, the minimum would be expected to be greater. When you consider that plans alone, if brought ready made—perhaps not embodying your exact idea and with specifications loosely drawn and possibly calling for materials unduly expensive in your particular locality—will cost not less than one per cent of the estimated cost of the house, the architect's fee is a very modest one.

The architect's inspection of the work is apt to prove of great value; he is working in your interest entirely and will see that the builder gives you what you pay for. If you are as familiar with building operations as the contractor himself, then you do not need an architect; but in that case, you do not need a builder, either! If you are ignorant of materials and building costs, then you are helpless if, unaided, you expect to keep tabs on the builder; the most carefully drawn specifications will be of no value to you, because you have not sufficient information and technical knowledge to know whether or not they are being followed. No man can possess all knowledge, and if you possessed as full a knowledge of the building game as does the contractor, you would not need his aid in building your house.

Many builders make a practice of furnishing plans and specifications to their clients without cost; the value of this to you depends entirely upon the honesty of the builder. Naturally he will not employ a very prominent architect, for the cost to him would be out of proportion, and you therefore are apt to get a house designed by a second-rate man. Only those drawings and dimensions which are absolutely necessary will be provided, and very little effort will be made to meet your particular wants. The specifications, too, will be loosely drawn and incomplete; at the price he gets from the contractor the architect cannot afford to spend too much time upon the work, and it is to the contractor's interest not to insist upon too rigid requirements. Nevertheless, in many cases this method works out to advantage.

No matter what method you follow in securing your plans, certain factors make both for economy and comfort. Built-in furniture is popular, and though it adds considerably to the first cost of the house this rarely runs higher than would the purchase of separate or "loose" pieces of equivalent grade. What slight excess there may be is more than compensated by the air of homelikeness and individuality which built-in fixtures give. As examples of this type of furnishing, one might suggest a sideboard and china closet in the dining-room; built-in bookcases at each side of the fireplace, under window seats or, in connection with a settee, along the sides of the room. A medicine closet in the bathroom and various appliances for the kitchen may also be designed. There is, of course, the danger that one may make his house so "individual" that it will appeal to no one else and hence be difficult to dispose of! There are many advertised conveniences and devices which add to the livableness of your house. You should not leave these entirely to the discretion of your architect, but tell him your immediate wants before it is too late to include them.

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out the first floor you have the same effect as if each individual room were large. This allows the whole floor to be thrown together for purposes of entertainment and is much more easily kept clean. The small house is economy so long as it supplies your needs; it is more homelike and cosy, more easily cared for and sells more readily than a larger structure. The economy in lighting and heating is also not to be overlooked.

Although the matter of plans has been covered elsewhere, it must not be forgotten that the specifications are at least equally important and that taken in conjunction the two form the basis upon which the contract for building will be let. The plans give the general design and size of the house and its parts, but the specifications list each item of material and of construction, distinctly give its grade or quality, and otherwise give the details which can, at best, but be indicated upon the plans. The plans of your house cannot show whether the trim and floors are to be of hardwood or of common pine, nor whether your plumbing and heating fixtures are to be of the best quality—yet the difference in these two items alone may amount to one-half the cost of a small house!

If you employ an architect it is safe to count on the specifications which he provides as being correct and covering the main essentials, but if your builder supplies the plans—look out! It is a too common practice for a builder anxious to secure a contract to present plans showing an attractive looking house, with many of those features which appeal to the average home seeker; the specifications which accompany them, however, and to which the uninformed would pay scant attention, may be so loosely drawn that the builder has practically a free hand. In a very recent instance plans of this nature were presented to a man who had had some contracting experience, the builder accompanying them with an estimate of the cost of the work. The specifications were too general, however, and the home-seeker re-drew them, calling for approximately the same grade of material whose use was implied in the original draft, but carefully detailing each item and bit of construction in accordance with good building practice. The result was that the contractor increased his estimate by nearly one-third!

The inference in this case is that the contractor expected to take advantage of the loose specifications to just the extent of this increase, and that the owner would have suffered in a corresponding degree. His house would have appeared much as the plans led him to expect, but the finish and workmanship would always have been unsatisfactory—in an extreme case the building might even have been unsafe.

As a rough check upon such ready-made specifications, consider what a properly drawn set should show. The first

sheet of all specifications is usually a printed form fixing the general conditions; this should provide for the privilege of inspection and condemnation by the architect or owner; fix the liability for all building and water permits, as well as for the carrying of sufficient insurance by the builder upon the work; fix the liability for any damage to adjoining property during construction; provide for the removal of all refuse upon completion of the work, and cover any other points which cannot well be taken care of under the separate headings.

After the general conditions the specifications usually proceed to take up each item of work in approximately the order in which it will be executed. Under the heading Masonry will come various items, beginning with Excavation—be sure to state in this paragraph whether the earth is to be carted away or dumped on the premises. Other items of Masonry may include the following, each subdivision giving full details of construction; Cellar Floor (if of concrete), Sidewalks, Coal Chute, Drains, Walls (if there is a difference between the front wall and the others, see that it is stated, as well as all heights and thicknesses), Cellar Steps, Brickwork (if any), Furnace Pit, Fireplace, Chimney, Whitewashing in Cellar, and Plastering.

Under the heading Carpentry is specified the general framing of the building, with sizes of joists, rafters, girders, etc., with their spacing; Flooring, both rough and finished; Doors, Windows, Built-in Furniture, Base and Trim—in short, everything about the structure which is made of wood. Although it is not likely that you will be able to check up timber sizes and kindred matters, you should watch closely to see that all special work—such as clothes posts, coal bin in cellar, built-in work, and so on—is included in this specification. Otherwise the builder will not give it to you without an increase in the contract price.

The title Hardware covers locks, hinges, sash locks and so on; special pieces, such as front door lock and escutcheon, should be designated by catalogue number. Tinning and Metal Work includes Leaders, Gutters and so on.

Plumbing and Heating are often included in the one contract, and care should be used in specifying workmanship and materials. It does not pay to skimp either item, as repairs and alterations in this work are expensive. In the plumbing the best quality of work should be specified; all fixtures should be specified by catalogue number and if possible all pipe sizes given—your local plumbing contractor will be glad to help you in this. If you intimate that he will have a chance to submit a figure for the work, he will be very apt to see that only the best is specified—there is more profit in it for him. In heating it is not sufficient to specify a furnace or boiler guaranteed to "Heat the house to seventy degrees in



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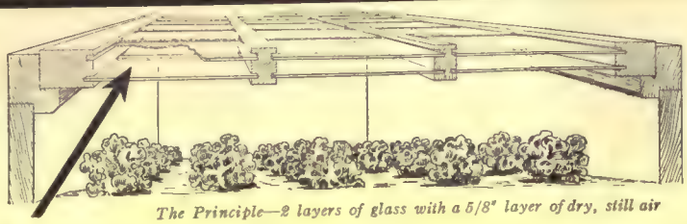
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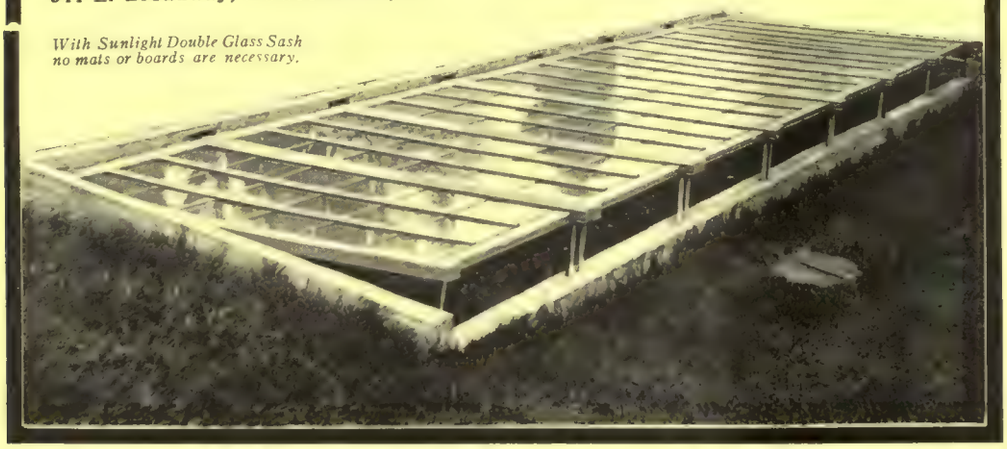
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zero weather"—it is next to impossible to enforce this guarantee, as the builder will maintain that you do not properly keep your fire. Have your dealer calculate the radiation for your house, and then specify a heater having at least fifty per cent more capacity, by catalogue number. At the same time designate the sizes and positions of the radiators—the contractor might place them inconveniently for you in order to save pipe. In marking the locations of radiators, place them if possible under windows so that any cold air may be warmed before passing into the room.

A word in regard to the various heating systems with their advantages may not be amiss. The cheapest installation is that of the hot air furnace. Various new designs and improvements have been perfected which overcome the common objection of fuel waste. The hot-air system has one great advantage of providing ventilation as well as warmth. Steam heat costs about fifty per cent more to install, but this is soon made up by the economy of operation and by its cleanliness. Hot water is the most modern system, costing about twice as much as the hot air furnace to install; in cold climates it is apt to freeze up under certain conditions; and as not every town has a man capable of repairing it, considerable difficulty may be involved. If you use this method, arrange it to connect with either drain or sewer, so that should you wish to close the house for a few days in cold weather you can easily clear the pipes of water and obviate the danger of freezing. Should you have an open fireplace, a very handy auxiliary heating system may be had at slight extra cost by installing a ventilating type of grate in it; registers connecting with the chimney may then be placed in one or two other rooms, which will be comfortably heated. This is a very good plan, and solves the difficulties of those days which are uncomfortably chilly and yet are hardly cold enough to warrant building a heater fire.

The items of Painting and Lighting usually complete the specifications; shades of paint in harmonious colors should be selected from color cards and specified by number. Lighting systems and fixtures should be specified to conform with insurance rules and the latter designated, when possible, by catalogue number.

Building contracts are usually let by competition; that is, the architect or the owner submits the plans and specifications to a number of builders, the lowest responsible bidder securing the contract and the owner reserving the right to reject any or all bids should they be considerably higher than the architect's estimate. The contracts are usually one of three forms—by day labor, cost and percentage, or straight contract. As these forms differ considerably from each other and offer varying advantages to the owner, it may be well to go into the important points of each.

Building by "Day's Labor" is usually done in towns too small to boast of a reg-

ular building contractor; it is most often followed in the country. In work of this kind the estimate given by the builders is of little or no value, for he is bound by no contract to maintain the price he sets for the work and the mere fact that he is willing and anxious to accept a contract of this nature shows either that he has little financial responsibility or that he is so doubtful of his own knowledge of the business that he is afraid to back up his estimate. Briefly, the plan consists in the builder and his men working for so much a day, all bills for labor and material being paid by the owner as they fall due. The opportunities for a dishonest builder to "soldier" on a job of this kind are unlimited, and one should if possible avoid having his work done under these conditions. If you are familiar with the building trades you may, of course, save money by this method. The risk is great, however, as you have no little hold upon the contractor. He may spend the estimated amount before the work is half completed, and you have little if any chance of collecting damages from him.

The cost plus percentage plan is good, although it figures more prominently in larger work. By this method the contractor guarantees that the work will cost not over a certain sum, and agrees to execute it at actual cost plus a percentage (usually ten per cent or fifteen per cent) of the guaranteed price; the owner pays all bills for material and labor. It is usually made a part of the agreement that should the work be executed for less than the guaranteed price the builder is to be awarded one-half of this economy—this gives him an extra bonus to work for and stimulates him to save as much as possible. Should the work exceed the fixed cost of the estimate, the builder is forced to make good the loss. This form of contract is fair and economical, but three precautions should be observed—a bond should be required of the builder, or an agreement made with him that his commissions are to be retained by the owner until the completion of the work; great care must be exercised in forcing him to follow specifications so as not to affect his "economy" at the expense of materials and workmanship, and the contract should call for completion by a definite date.

A bond is necessary in a contract of this kind because it may be presumed that if the contractor were financially strong he would prefer the "straight" form of contract under which he would secure all of the profits instead of a percentage; should the guaranteed price be reached before the completion of the work, the bond protects the owner from injury should the builder throw up the job and he be compelled to employ other parties to complete it—always an expensive matter. The retained commissions serve the same purpose, but in a lesser degree; on a small job they may amount to only a few hundred dollars and be insufficient to protect the owner.



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The straight contract is probably the most advantageous for both contractor and owner, nor will a responsible firm refuse to work under it; rather, they will insist upon it, since it is a protection to them, giving definite times of payment and providing means of recovery should payment be withheld. It may, however, be safely left to the contractor to safeguard his own interests in drawing the contract; we need concern ourselves only with those points which should be included for the complete protection of the owner.

This contract should be in effect, the exact wording being immaterial, an agreement on the part of the builder to erect upon a given plot and for an agreed sum and in accordance with the plans and specifications (which are made a part of the contract, so that any material deviation from them may invalidate the contract and thus give you means of recovery) a building of a designated class. It should name a definite date by which the building must be completed, with a forfeit provided for each day or week by which that time is exceeded. It must name the time and place of payment; the usual procedure is to have the contractor submit bills monthly for eighty-five per cent of the value of the work completed during the month, the remaining fifteen per cent being held as a guarantee until thirty days after the completion of the building; or it may state certain sums which are to be paid either upon given dates or upon the completion of different stages of the work, the final payment to be made only upon the satisfaction of the owner with the building. It should provide for insurance to be carried upon the building in the joint interest of contractor and owner (or of each separately) naming the amount and which is to pay the premiums. It should provide that no item of work should be allowed as an extra unless ordered by the owner in writing, and then at a price to be fixed by the architect—if there is no architect, then according to agreement made between contractor and owner at the time ordered. Any other provision called for by the needs of a special case should be incorporated in the contract, for it is upon that rather than upon any verbal agreements which you must stand in court should necessity drive you there; as in the case of the plans and specifications, the best way to avoid trouble is to leave no chance for it.

This article was written with the intention of informing the prospective home builder upon some points which, though important in a project which involves considerable capital and may be undertaken but once in a lifetime, are not within the scope of everyday experience. The writer makes no claim to have said the last word upon the subject, but with all due modesty he believes that he has accomplished the purpose mentioned, in that a study of the hints given will at least excite thought upon a subject which is often entered into carelessly.

The Secret of Silent Plumbing

(*Continued from page 32*)

caused by these fixtures. When a tank is operated, improper ball cocks will hiss as the tank refills—others chatter. Good ball cocks adjusted to the pressure under which they are to operate are generally satisfactory. It is important that the ball cock be suited to the pressure of the water which it controlls in refilling the tank. Some manufacturers offer closets that are designed especially to avoid noise in operating. The bowls, the tanks and the fittings are carefully chosen to work efficiently and yet with a minimum of sound.

The filling of bathtubs is sometimes a noisy process. Combination fittings can be purchased that set beyond the rim of the tub—or even in the wall of the bathroom—and permit the water to enter through a small metal shell or bell, as it is called. This bell is fitted closely to the inside of the tub so that the water enters and glides down the side of the tub without splashing and without noise.

What We Learned When We Built Our House

(*Continued from page 27*)

is easily understood and appreciated.

Beyond the inner door of the vestibule is a small passage that, if walled in, might seem contracted. This effect is avoided by the absence of doors to the living-room, which opens through a pointed arch directly to the left of the passage. Opposite the front door an oak paneled door is seen beneath the ascending stairs. This leads to another small passage where the door immediately before one opens into the kitchen and the door on the right gives upon the cellar stairway. The main stairs are both picturesque and easy. Three steps lead to a landing with a window facing one and a door to the right opening into a small toilet and coat room. Then the stairs turn up, winding just a little and come out in the middle of the upper hallway.

The living-room stretches twenty-four feet to the latticed south window and, as before said, the absence of division from the passage entrance, also the absence of doors between living- and dining-rooms increases the look of spaciousness. Again, too, this is helped by the unusually large windows of which the living-room has two looking east as well as the wide window to the south. Fronting the east windows is the open fireplace. The chimney being deep makes a nook on the right, which is filled in by a built-in seat with a hinged cover so that the box beneath can be utilized. Another such box and seat is beside the staircase, while the long seat in the lattice window gives a wonderful length of store place.

To balance the chimney seat on the right there is a built-in bookcase on the left of the fireplace. This extends beyond

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Residence of Walter M. Collins, Builder, Bayside.

the opening into the dining-room; a similar bookcase built to the outer wall is its mate, the tops of both being enough to make cabinet-like places for ornaments. Besides this built-in furniture and that in the dining-room, the living-room has, above the oak wainscot that bands the walls, a ledge which serves as a sort of running curio cabinet. The mantel shelf, eighteen inches wide, gives additional depth to the chimney-piece by projecting over the hearth. Beneath the wood casing the fireplace is lined with bricks and into the center of these is set a Persian tile, while Chinese tiles ornament either upper corner, the varied yet harmonious colorings in all of these setting off the brown of the woodwork and the tones of the bricks.

Another feature that undoubtedly enhances the look of space in what is really a small house are the wide panels made in the beamed ceiling. These beams are, of course, oak like the other woodwork.

Facing the entrance from the living-room is the dining-room west window, with its commodious buffet built in beneath it. To the right a swing door, set cornerwise, opens into the butler's pantry. There is space between this corner door and the mantelpiece, also set cornerwise, for a side table. Over the mantel is a diamond paned china cabinet, and a wide plate rail skirts the room at the usual height.

By making Indian baskets and ornaments conspicuous on the walls of this room, Russian brass and copper and Persian utensils of use as well as ornament seem to be pleasantly thrown into contrast and the Oriental treatment of the living-room is not demeaned, but rather enhanced. It seems to be the character of the house's architecture that makes possible a mingling of different styles of furnishing that are yet harmonious.

From the bedrooms the balcony window-boxes are not so well seen as from the garden, though they bring the out-of-doors almost into the rooms. There are four bedrooms on the second floor and a bathroom. Each room has two windows and a closet, one has two closets and there is a linen closet at the end of the hall which, as the plan shows, runs across the house. The northwest room has a balcony, large enough for a hammock or cot bed. Stairs that ascend as does the lower flight reach the attic where the hall and one large room are finished off and the sloping roof affords two large closets, one really big enough for a room.

Vine planting is the delight of the householder and for a new house the quick growers are naturally sought. The window boxes bloomed so luxuriantly that such vines as they held were tried in the garden, but the morning glory was the first to respond, though Boston ivy, honeysuckle and climbing nasturtiums did well. It is fortunate when a new place has had a well-grown tree preserved by the builders and as a screen for a back

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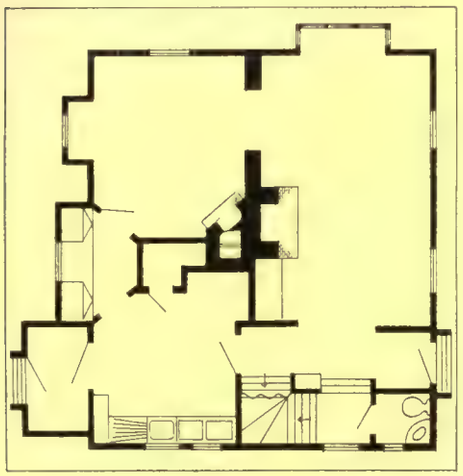
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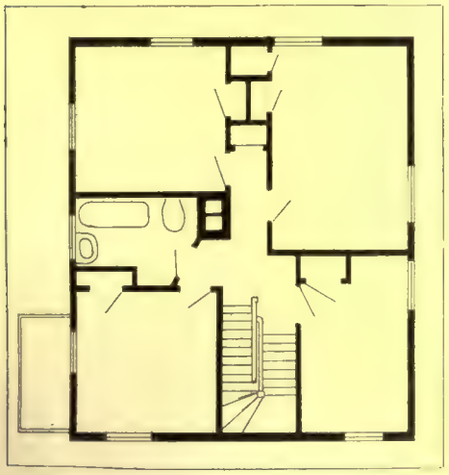
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door it is invaluable as well as beautiful. A mistake in the back door in this instance has since been remedied. The steps should not descend directly from the door; it is awkward for entering or going out with the hands full, as one must often do. These steps have now been turned around and descend from a stoop that has been built out from the door so that the door can open on a level. This was, of course, an added expense; that ought to have been arranged for when planning the house.



The first floor plan, showing how the rooms are arranged to save space



The plan of the second floor. Roominess is characteristic throughout the house

Nor had the arbor-pergola been allowed for in the first expense. One naturally wants such a thing in order to be out-of-doors as much as possible. An Italian job man was found to build this one and he took the keenest interest in making it and the rustic seats and table. When the vines that have been planted shall have grown into good screens it will be, perhaps, a thing of beauty as well as a joy forever, for this was built right from the start.

As for the bathroom, the color scheme is clean, cool and simple. The walls are tiled half way up, then the same creamy hard finish as the rest of the house, with



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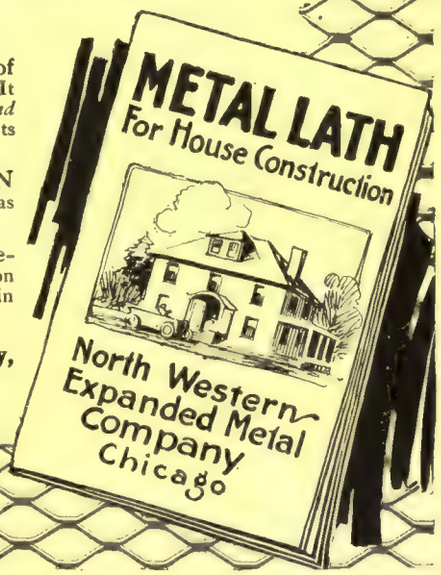
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the brown woodwork, picture molding and finish between the tiling and cement, which is used as a support for narrow shelves.

The bars of glass on which the towels are to be hung are set about five inches from the wall so that the heavy bath towels may be accommodated and just below the glass shelves on either side the large window, which is back of the marble basin and at the right of the bathtub. There is a corner for the clothes hamper and a clothes rack on the back of the door, as well as on the wall at the right of the door as you enter. Of course, a glass door knob adds to the sanitary treatment of the closet and a medicine closet, high enough above the bathtub to prevent a collision between it and the head of the bather. The wainscot in the bathroom is of tile, and the floor of hard wood oiled. A small Turkish rug and a standing towel rack finish its equipment.

And now to those who have never built and want to do so, I would say: Buy your land only from a responsible, honorable company or parties, and employ a competent lawyer to examine all titles and papers connected with the deal. Have your second survey made by a different surveyor from the one employed by the company. Be sure your architect will be personally responsible for the contractor he employs and that he will examine the building from time to time to see that all the provisions of the contract are being carried out. Last, but by no means least, do not build until you can look after it yourself. Then having done your level best, be prepared to find that your house has cost you at least five hundred or a thousand dollars more than you expected.

Building Constructions that Resist Fire

(*Continued from page 21*)

Steel Company, Cleveland.

In a large laboratory specially equipped for the purpose, the Committee had specimen walls of six different kinds built into steel frames lined with fire brick. After about six weeks' time to allow the plaster to set, these "doors" were swung in against six huge concrete furnaces arranged in the form of a heptagon with one side open.

Kerosene compressed to 125 pounds pressure was heated and the heated oil, forced through a small orifice in burners, produced a fire intensely hot and easy of control.

The specifications of the American Society for Testing Materials were followed so that all of the specimen panels received about the same treatment. As our investigation has particularly to do with the stucco wall, a description of the test of that specimen, which was known as Panel 14, will serve our purpose.

In preparation for the test, a device to show the temperature was placed at the

center of the furnace about two inches from the fire-side of the panel being tested. The temperature from this was indicated on a pyrometer and recorded every three minutes. The temperature was brought up to 1,700 degrees Fahrenheit in thirty minutes and kept above that point for an hour and a half more, making a total test of two hours, the maximum heat reached being 1,943 degrees.

At the end of two hours the door was thrown open and water from a city hydrant directed against the specimen for two and one-half minutes. The sample wall was practically intact except that the water had washed from the inner side of the wall some of the plaster which had recalcined under the intense heat. When the specimen had cooled, this inside section was torn off to ascertain the condition of the supports. While the studs were charred, the outer side of the wall was uninjured and the key of plaster on the back of the metal lath intact. Neither fire nor water went through the wall during this rather severe trial, even though the mixture of plaster was designed particularly to resist any tendency of the stucco to crack, rather than to resist fire.

The evidence is quite conclusive, however, that the stucco house built without sheathing does not differ materially in cost from the ordinary clapboard house. In some places it is slightly more, others less. The wall of a house "with sheating" will cost, perhaps, five per cent more. When no sheathing is used, the one and one-half inches of solid cement plaster set between and over the studs gives greater rigidity to the wall and its insulating qualities are better.

The author has found among the examples of stucco without sheathing such an absence of the defects sometimes found in the "sheathing method" that he is inclined to advocate the former. Stucco with sheathing will always be much used, as there are many strong adherents of this method among architects, who have been particularly successful with it.

It was from these tests that the specifications were prepared. They apply to the two methods of construction described. Paragraphs marked "a" apply apply only to back-plastered wall without sheathing. Paragraphs marked "b" apply only to walls with sheathing. All other paragraphs apply to both forms of construction.

In recent years there has been developed a method of remodeling old frame houses, which is being extensively used in all sections of the country. In line with the systems herein described, suggestions for overcoating, as it is called, are here given to make the remodeled house fire-resisting. Cripped steel furring strips are fastened vertically over the weather boarding by means of galvanized wire staples. These strips should be at least one-half an inch wide and in some



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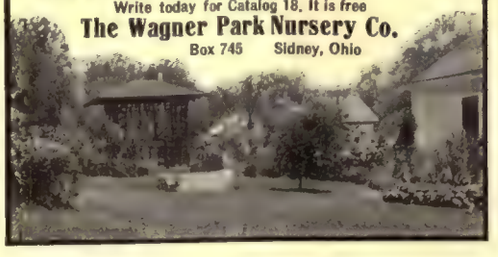
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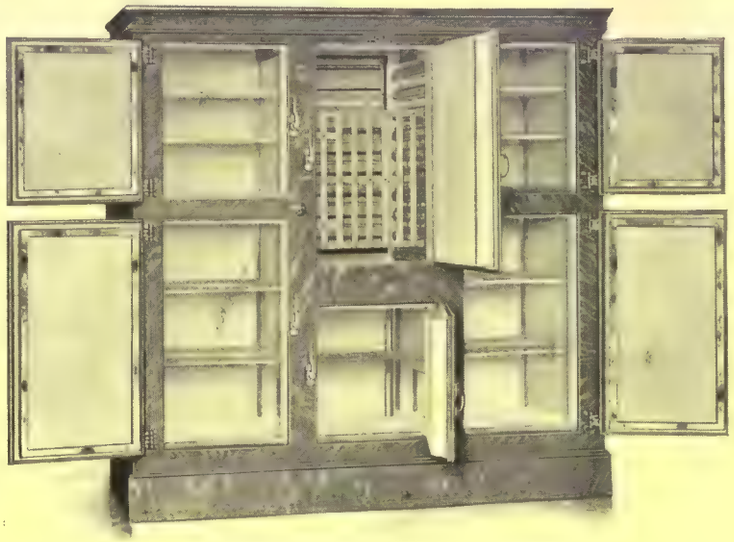
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cases a strip ¾-inch wide is used. Twenty-four-gauge galvanized, expanded metal lath weighing not less than 3¼ pounds to the square yard is fastened over these furring strips by means of staples, which are driven through the lath and over the strips. Portland cement plaster is then applied to the metal lath.

The object in using the furring strip is to bring the lath out from the weather-boarding, so that the plaster will form a perfect key and completely cover the back of the lath. There will be approximately three-eighths of an inch of plaster on the back of the lath. This leaves an air space between the plaster and the weather-boarding, which serves two purposes. It protects the interior of the house from extreme changes of temperature and keeps the plaster away from the wood, so that the contraction or expansion of the wood will not cause cracks in the plaster.

Where this method is adopted, some provision must be made for extending the old window and door frames to correspond with the increased thickness of the wall. In some cases the plaster is brought over the old frames in such a manner that a recessed window or door opening is made. If the weather-boarding is in a poor condition, it can be removed from the house and the furring strips and lath applied directly over the sheathing; or if the building is not sheathed, the furring strips can be fastened directly to the studding. In this latter case, there need be no provision made for extending the window and door frames, as the new stucco finish will have this same relative position as the old weather-boarding. The plastering shall be the same as specified where sheathing is used.

The specifications which follow are proposed for building conditions as described above. They should be suggestive to architect and layman as a method of building valuable in resisting fire and for use where some of the more expensive systems are precluded on account of cost or design. For the materials, the usual Standard Specifications apply as to cement; good sand, crushed stone or gravel screening; lime, hair or fibre, etc. The mortar should be thoroughly mixed to a uniform color; sufficient water added to obtain the desired consistency, the mixing to continue until the cement and lime are uniformly distributed. The hair or fibre should be added during the process of wet mixing.

Methods of measurement of the proportions of the various ingredients, including the water, shall be used which will secure separate uniform measurements at all times. All proportions stated are by volumes. A barrel of cement shall be assumed to contain 3.8 cubic feet. Lime, when used, shall be measured in the form of putty. Hydrated lime shall be made into putty before being measured.

There shall not be mixed at one time

more mortar than will be used within one hour. Mortar which has begun to stiffen or take on its initial set shall not be used.

STRUCTURE

Paragraphs marked (*a*) refer to back plastered walls without sheathing; those marked (*b*) with sheathing.

FRAMING—Studs spaced at 12 inches centers wherever possible shall be run entirely from foundation to rafters without any intervening horizontal grain in the wood. These studs shall be tied together just below the floor joists by 6-inch boards which will be let into the studs on their inner side, so as to be flush and accurately nailed to them. These boards will also act as sills for the floor joints, which in addition will be securely spiked to the side of the studs.

BRACING—(*a*) At one point between each two floors brace between the studding with 2 x 3-inch briding.

(*b*) Bracing may be omitted, as the sheathing boards act as bracing.

SHEATHING—(*a*) The lath is to be fastened direct to the standing and back-plastered and no sheathing boards are to be used.

(*b*) Sheathing boards shall not be less than 6 inches or more than 8 inches wide, dressed on one or both sides to a uniform thickness of ⅞-inch. They shall be laid diagonally across the wall studs and fastened with two nails at each stud.

INSIDE WATERPROOFING—(*a*) The faces of the stud and for one inch back of the face on each side where the plaster may come in contact with them shall be thoroughly waterproofed with tar or asphalt.

(*b*) Over the sheathing boards shall be laid horizontal layers, beginning at the bottom, a substantial paper well impregnated and thoroughly waterproofed with tar or asphalt. The bottom strip shall lap over the base board at the bottom of the wall, and each strip shall lap the one below at least 2 inches. The paper shall lap over the grounds and under flashings at all openings. When required the lower horizontal edge of each strip shall be cemented with hot or liquid tar or asphalt compound, to the strip below and to the grounds of flashings at all openings. All tacking shall be within 2 inches of the top horizontal edge, where tacks will be covered by the lap of the strip above.

FURRING—When furring strips from an integral part of the metal lath to be used, then separate furring strips as described in this paragraph are to be omitted.

(*a*) Fasten galvanized or painted ¼-inch crimped furring strips not lighter than 22 gauge direct to the studding, using 1¼-inch by 14-gauge staples, placed 12 inches apart.

(*b*) Fasten ¼-inch galvanized crimped furring not lighter than 22 gauge over the sheathing paper and directly along the line of the studs, using 1¼-inch by 14-gauge galvanized staples, placed 12 inches apart. The same depth of furring should be adhered to around curved surfaces, and furring strips shall be placed not less than 1¼ inches or more than 4 inches on each side of and above and below all openings.

PREPARATION OF ORIGINAL SURFACE—All roof gutters shall be fixed and down-spouts, hangers and all other fixed supports and fasteners shall be put up before the plastering is done, so there will be no break made in the plastering where they are permanently fixed.

To keep water from behind the plaster, all wall copings, balustrade rails, chimney caps, cornices, etc., shall be built of concrete, stone or tile, with ample overhand drip grooves or lip and water-tight joints.

If wood sills are used, they should project well from the face of the plaster and have ample drip groove or lip.

Metal lath shall be stopped far enough above the level of the ground to be free from ground moisture. Care should be taken that all trim be placed the proper distance from the studding or furring to show its right projection after the plaster is on.

LATH—The lath shall be not thinner than 24 gauge, galvanized or painted, expanded metal lath weighing not less than 4¼ pounds to the square yard, or woven wire lath, galvanized or painted, 19 gauge, 2½ meshes to the inch, with stiffeners at 8-inch centers.

APPLICATION OF LATH—Place lath horizontally over the furring strips, driving galvanized staples 1¼, 14-gauge, 8 inches apart over the furring strips into the studding. The sheets of lath shall be locked or lapped at least 1 inch and tied at joints between studs both vertically and horizontally with 18-gauge wire.

CORNERS—There shall be 6-inch strips of metal lath bent around the corners and stapled over the lath, or the sheets of metal lath shall be folded around the corners at a distance of at least 3 inches and stapled down as applied. Galvanized corner bead may be applied over the lath.

INSULATION—(*a*) After the lath on the outside has been back-plastered, the air space may be divided by applying heavy building paper, quilting, felt or other suitable insulation material between the studs, fastening it to the studs by nailing wood strips over the folded ends of the material. This insulation should be so fastened as to clear the 2-inch bridging, leaving the preponderance of the air space next to the plaster. Care must be taken to keep the insulating material clear of the outside plaster, and to make tight joints against the wood framing at the top and bottom of the spaces and against the bridging where the 3-inch face intercepts.

(*b*) When quilting, felt or other insulating material is to be used it shall be applied to the sheathing boards under the inside waterproofing.

MORTAR COATS

PLASTER—(*a*) The first coat shall contain not more than 2½ parts of sand to one part of Portland cement by volume. If lime putty is added, it shall not be in excess of one-third of the volume of cement. Hair or fiber may be added in sufficient quantity to bend the mortar.

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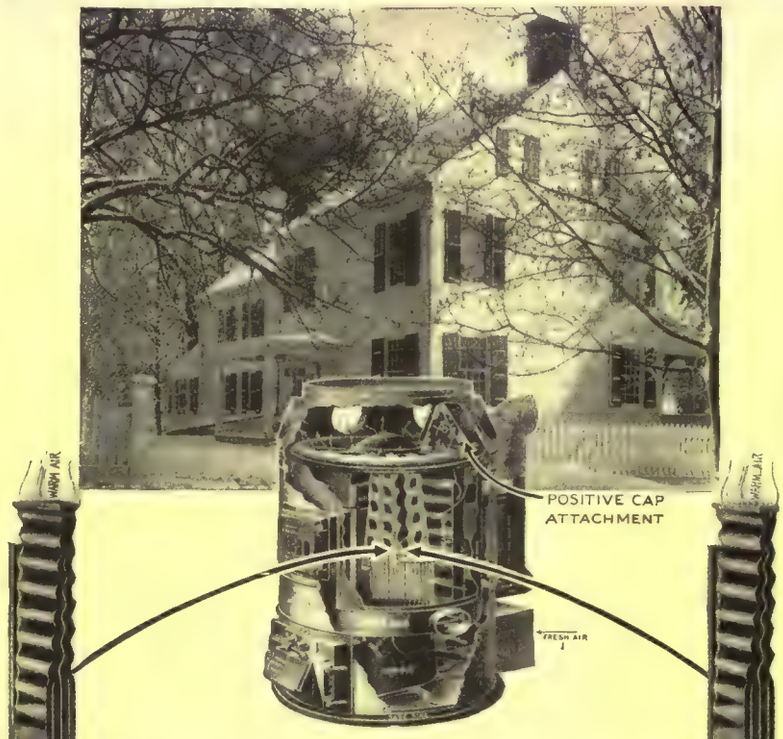
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(*b*) The first coat shall contain not more than 2½ parts of sand to one part of Portland cement by volume. If lime putty is added it shall not be in excess of one-third of the volume by cement. No hair or fiber or similar material of any kind or in any quantity shall be added to the mortar.

For second coat, the proportion of sand to cement shall not be greater than 2½ to 1 by volume, nor shall more than one-third part of lime putty be added.

For third coat, the proportion of sand to cement shall not be less than 2 to 1, nor more than 2½ to 1 by volume, nor shall more than one-third part of lime putty be added.

WATERPROOFING—When a special waterproofing is to be added to mortar stucco work, it shall be added in strict accordance with the specifications of the manufacturers.

APPLICATION—(*a*) The first coat shall be applied to the outside of the lath and pushed through sufficiently to give a good key. Over the face of the studs the plaster shall be forced well through the lath in order to fill entirely the space between the lath and the stud. The backing coat shall be applied to the back of the lath and shall be thoroughly troweled so that the lath shall be entirely covered. The final coat shall be applied to the face of the first cost.

(*b*) The first coat shall be applied to the lath and thoroughly pushed through against the inside waterproofing, so as to completely imbed the metal of the lath on both sides. Special care shall be taken to fill all voids around furring strips and where laths lap.

The intermediate and final coats shall be applied in order and well troweled on to.

ROUGHING—Soon after applying and before the initial set has taken place, the surface of the coats which are to receive succeeding coats shall be roughened with a saw-toothed paddle or other suitable device.

DAMPENING—Before applying mortar the surface of the preceding coat shall be thoroughly wetted to prevent absorption of water from the fresh mortar.

THICKNESS OF COAT—(*a*) The first coat shall be at least ⅜-inch thick, over the face of the lath and will project through behind the lath about ⅜-inch. The backing coat will increase the thickness behind the lath to not less than ⅝-inch. The final coat shall be not less than ⅜-inch thick.

(*b*) The first coat shall have a minimum thickness over the lath at any point of not less than ¼-inch or more than ⅜-inch. The final coat shall have a thickness of ¼-inch when placed over an intermediate coat, or of ⅜-inch when placed directly on the scratch coat.

DRYING OUT—The final coat shall not be permitted to dry out rapidly, and adequate precaution shall be taken, either by sprinkling frequently after the mortar has set hard enough to permit it or by hanging wet burlap or other material over the surface.

FREEZING—Stucco should never be applied when the temperature is below freezing.

FINISHES

SMOOTH TROWELED—The finishing coat shall be troweled smooth with a metal trowel with as little rubbing as possible.

STIPPLED—The finishing coat shall be troweled smooth with a metal trowel with as little rubbing as possible, and then shall be lightly patted with a brush of broom straw to give an even, stippled surface.

SAND FLOATED—The finishing coat, after being brought to a smooth, even surface, shall be rubbed with a circular motion of a wood float with the addition of a little sand to slightly roughen the surface. This floating shall be done when the mortar has partially set.

SAND SPRAYED—After the finishing coat has been brought to an even surface, it shall be sprayed by means of a wide, long fiber brush—a whiskbroom does very well—dipped into a creamy mixture of equal parts of cement and sand, mixed fresh every thirty minutes and kept well stirred in the bucket by means of the whiskbroom or a paddle. This coating shall be thrown forcibly against the surface to be finished. This treatment shall be applied while the finishing coat is still moist and before it has attained its final set—i. e., within three to five hours. To obtain lighter shades, add hydrated lime of 5 to 15 per cent of the volume of the cement.

SPLATTER DASH OR ROUGH CAST—After the finishing coat has been brought to a smooth, even surface and before attaining final set, it shall be uniformly coated with a mixture of one part cement and two parts of sand thrown forcibly against it to produce a rough surface of uniform texture when viewed from a distance of 20 feet. Special care shall be taken to prevent the rapid drying out of this finish.

PEBBLE DASH—After the finishing coat has been brought to a smooth, even surface, and before attaining initial set, clean round pebbles or other material as selected not smaller than ¼-inch or larger than ¾-inch shall be thrown forcibly against the mortar so as to embed themselves in the fresh mortar. They shall be distributed uniformly over the surface of the final coat and may be pushed back into the mortar with a clean wood trowel, but no rubbing of the surface shall be done after the pebbles are embedded.

EXPOSED AGGREGATE—The finishing coat shall be composed of an approved, selected coarse sand, marble dust, granite dust or other special material, in the proportion given for finishing coats and, within twenty-four hours after being applied and troweled to an even surface, shall be scrubbed with a solution of one part hydrochloric acid in four parts of water by volume. After the aggregate particles have been uniformly exposed by scrubbing, the wall shall be thoroughly washed down by spraying with a hose to remove all traces of the acid.

MORTAR COLORS—When it is required that any of the above finishes shall be made with colored mortar, not more than 6 per cent of the weight of Portland cement shall be added to the mortar in the form of finely ground coloring matter.

A predetermined weight of color shall be added dry to each batch of dry fine aggregate before the cement

is added. The color and fine aggregate shall be mixed together and then mixed dry by shoveling from one pile to another through a ¼-inch mesh wire screen until the entire batch is of uniform color. Water shall then be added to bring the mortar to a proper plastering consistency.

The Service of the Architect

(*Continued from page* 19)

most favorable situation, with full consideration of the natural grades, so that best landscape effect will be secured and the least possible amount of special grading will be necessary. In country and suburban residence work this is usually a problem of considerable importance and one in which the experience and technical knowledge of the architect should always be consulted.

During the progress of construction the architect or his expert superintendent visits the job from time to time to see that all materials used are of the quality specified and every part is properly constructed. As the contract with the builder provides that no part of the work will be paid for until the architect has certified that it is O. K. it will be seen that the architect's judgment is final and his authority absolute. Since his own reputation as well as the interests of the client is at stake he will not hesitate to reject any work that is not fully up to standard.

The advantage of this system for the protection of the client will be at once apparent. The builder must not only produce work that will satisfy his own conscience but every part must be finished up to a standard that will be satisfactory to the architect, who has full technical knowledge as to what it should be and also a double incentive to reject it if it is inferior in any respect.

To conclude, the following incident will afford a sidelight on the effect of experience on a home-builder who was fortunately able to test the truth of the bromidium "One must build a house or two before one knows just what one really wants."

This home-builder recently came to an architect and said, "I want you to build me a house. I like the lines of the one you built for Mr. Blank and he tells me that you know your business. Now I want you to know at the outset that I am going to be an ideal client. I built a house a few years ago and for me it was a very serious proposition. I lived very near the job and watched every nail and screw that were driven. I inspected every board that was used and saw to it that every stroke of work was properly done. To say that I was popular with the contractor and the workmen would hardly be stating the facts and I really do not know how I managed to remain friends with the architect. He did not consider that it was necessary for him to give the work his usual close supervision because I was 'on the job' so much myself and the results of his absence have been apparent many times since in important parts of the house that it proved I did not know about at all.



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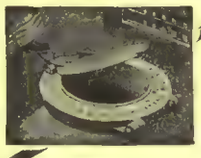
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The Immediate Garden Treatment of a New House

(*Continued from page* 39)

Where there is not sufficient ground space to plant a screen, your permanent plan will of course call for some kind of structure as the screen's beginning, this to be the support of vines which will complete its effectiveness. Such structures it is, of course, well to make permanent in the beginning; and right here I would like to say that lattices, arbors and trellises generally are one of the crying needs of our gardens. We seem to have altogether forgotten how to divide and screen and seclude by means of these charming garden features—largely no doubt because of a blind belief in the necessity for leaving everything as much alone as possible, in order not to effect a diminution in apparent size. No garden was ever beautiful by size alone; order and design are the primary factors rather than any accident of space or lack of it, in the final result. And very often division is more important to the sense of space than no division—will, indeed, create an illusion of space where space is very limited.

So do not hesitate to introduce lattice and arbor and trellis wherever opportunity offers—without overdoing it, of course—and plant the permanent vines on these at once, as well as the temporary ones. Or perhaps you will elect to make the most of these features by training fruits upon them. In that event, set out the trees as soon as the spring season opens and be sure that your few temporary vines do not encroach upon them to the least degree during this first summer.

Shade where no tree large enough to furnish shade will stand for a number of years is also well provided by light arbor work and temporary vines. House foundations are well clothed with the sweet *Nicotiana*, or with the low growing *Helianthus nanus, fl. pl.*, or with annual mallow, *Lavatera trimestris;* and almost any flowery annual will furnish a good border to temper the sharp edge of granolithic walk. Of course, the flower garden itself, whatever its form, may be completely made up of annuals this first summer, and await its permanent habitants until fall. Meantime a seed bed should be made ready, along in midsummer; and the perennials which are to take the place of

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the garden's temporary annual tenants, raised in it, and brought to the planting-out age by the end of September or middle of October.

So much for the generalities of toning down and harmonizing. As to the garden plan and planting, both temporary and permanent, I would say, always let simplicity be the rule and watchword—simplicity in design and simplicity in planting. One long, straight walk leading to a seat or dial or arbor, bordered with a long straight border containing great simple masses of a few—two or three—kinds of flowers, is more to be desired on a modest place than the most ingenious of patterns or the greatest variety of plants.

Yet I would urge always the use of every bit of the land; and also I would emphasize the fact that simplicity does not mean a *lack* of either garden or design. This is everywhere, unhappily—this plain, uninteresting, negative "do-nothingness."

Vines for First Year; to be raised from seed:

Bryonopsis lachiniosa—10 to 20 feet. Gourd fruits. Good for porch, arbor, etc.

Cobœa scandens—30 to 50 feet. Clings to any rough surface. Cup-and-saucer-vine; set seeds edgewise and cover very lightly; arbors, etc.

Echinocystis lobata—10 to 12 feet. Good for trellis, fences, etc. Wild cucumber vine; white flowers in July and August.

Humulus Japonica—10 to 15 feet. Very dense foliage. Japanese hop; suitable for trellises, low arbors or screens.

Ipomea setosa—10 feet up. Rose colored flowers. Brazilian morning-glory; blooms from August to frost; quick growing.

Ipomea—10 to 15 feet. Beautiful foliage, dense, etc. Imported Japanese morning-glory; superb flowers; sow in sunny place as soon as weather is settled.

Tropœolum lobbianum—6 to 10 feet For low screens or enclosures. Climbing nasturtium; this variety rich in reds and free flowering.

Lathyrus odoratus—10 to 15 feet. For trellises, etc. Sweet pea; choose the orchid-flowered varieties and provide a strong and permanent screen or trellis, if you mean to have them every summer.

Annuals which may be substituted for shrubs:

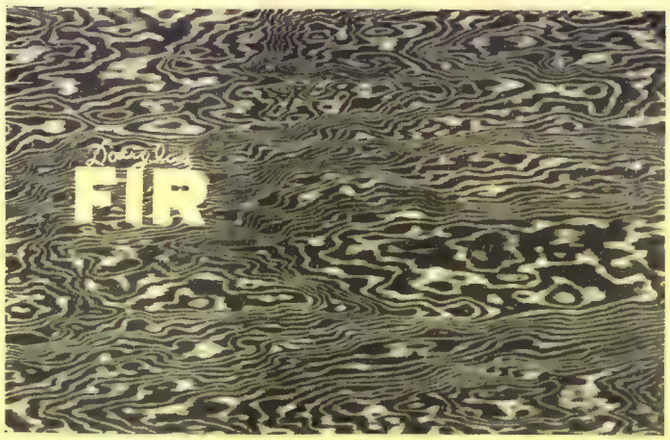
Amaranthus caudatus; love-lies-bleeding; 3 to 5 feet; hot sunny place; give room to develop for best effect; foliage is the attraction.

Cleome gigantea; spider flower; 3 feet or more; rose-crimson flowers; plants should stand 18 inches apart.

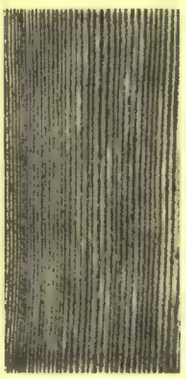
Cosmos; choose the "mammoth" varieties; 5 to 7 feet; crimson, white, pink; plants should stand 18 inches apart; prefer light and not too rich soil.

Datura, "cornucopia;" trumpet flower; 2 to 3 feet; white, outside purple; very fragrant.

Dahlia, double cactus; will bloom from seed the first season if sown before April first; many colors; 4 to 5 feet.



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gives superior service. The United States Government, in Forest Service Bulletin No. 88, issued June 17th, '11, says: "Douglas FIR may, perhaps, be considered as the *most Important of American Woods.* (★) As a structural timber it is not surpassed, and probably it is most widely used and known in this capacity."

★ *WHY does the ultra-conservative Govt. Report thus describe Douglas Fir?*

The *reason* for the superiority of Douglas FIR for building purposes is that *in proportion to weight* it is the

Strongest American Wood

U. S. Government tests clearly show the greatly superior strength of Douglas Fir and its vastly lighter weight per thousand feet. The figures are clear and conclusive.

This great strength with light weight, makes Douglas FIR the ideal wood for all framing purposes, from the studding and joists of a cottage to the beams and columns for large mill-construction buildings. Moreover, Douglas FIR is as beautiful as it is strong, and is therefore as desirable for interior finish as it is for structural use. The "watered silk" effect of its singular grain is most pleasing, and its texture is adaptable to any finish.

The U. S. Government Bulletin quoted above also says: "Douglas FIR sawed 'flat grain' shows pleasing figures and the contrast between the spring and summer wood has been considered *as attractive as the grain of quarter-sawed oak.* (★) It takes stain well, and, by staining, the beauty of the grain may be more strongly brought out and a number of costly woods can be imitated."

(★*Quarter-sawed oak costs about two and one-half times as much.*)

You will appreciate a copy of the booklet on "Douglas FIR—Its Value to Builders." It is free. Put your name on a postal. Also put on your address. Then mail it. (You'll be glad you did.)

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Our Illustrated Catalog No. 40 describes the above

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Always Reliable

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It is brimful of helpful suggestions for your garden — its planting and care. Full instructions as to the *best* way to grow every flower and vegetable —a list of varieties even more comprehensive than ever—these are but a few of the many reasons for the popularity of Thorburn's Annual Seed Catalog.

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This is the popular "Ragged Sailor." Ten cents enclosed with your letter brings a generous packet of seeds.

Dahlia, any preferred; the single flowered will bloom from seed the first year if sown in May in the open ground; 4 to 5 feet.

Helianthus cucumerifolius, Stella; miniature sunflower; 4 feet; sow in full sun, in April or May.

Helianthus, chrysanthemum-flowered; double sunflower; 7 feet; very beautiful flowers.

Helianthus, double white miniature; sunflower; 4 feet; nearly white flowers, some partly double.

Pennisetum Rueppelianum; purple fountain grass; 3 feet; excellent in foreground of taller things.

Kochia tricophylla; summer cypress; 3 feet; sow in lines, thinly, as a division mark or summer hedge; becomes symmetrical pyramid; plants should stand from 10 to 12 inches apart in the row.

Lavatera trimestris; annual mallow; 2 feet; suitable for border against building, or extreme foreground.

Nicotiana sylvestris; tobacco; 4 feet; pyramidal plants with very fragrant white blossoms; use in groups of two to five, with lower material before them.

Ricinus Cambodiensis; castor oil bean; 5 feet; plants should stand 2 feet apart.

Ricinus Zanzibariensis; the largest and finest castor bean; 10 feet; very beautiful foliage effects; same distance apart as above.

Crops for Quality

(*Continued from page* 39)

urban section, to get brush to use as a trellis for peas and it is a good deal of a job to put it in. Wire trellis is more convenient to use, and although it is quite expensive, it will last several years. Picking is much easier from vines which have been supported, and the tall sorts, as I have said, bear for a longer time. They also vary more in the time required to come to maturity, so that if a careful selection is made, one may plant four or five varieties on the same date and they will mature in succession, giving a continuous crop in prime condition for several weeks. On the other hand, where garden space is limited, where time is of value and where it is difficult to procure brush or other material for trellis, the dwarf wrinkled sorts are much more convenient to use. As far as the table quality is concerned they are entirely satisfactory; the only difference is that to insure a continuous succession of peas, they should be planted more frequently. But if an early and a late main crop sort are planted at the same time they will together yield a crop that will be in prime condition for from two to three weeks, and by replanting at intervals of about that length of time a continuous supply will be obtained. Futhermore, the vines take up little room, the crop matures quickly and the dead vines may be removed and the space planted to bush beans or some other vegetables. This is the system which I use for myself and have

"Breathes there a man with soul so dead
Who never to himself hath said,

I Want a Garden

but I'm not going to get down on my hands and knees and sow by hand and weed or break my back over that old hoe. I want the garden, for I know that, in it, I would find relaxation for mind and body and a great appetite easily satisfied, no little satisfaction in *producing* part at least of my living at a lower cost, a variety for my table without waiting for hucksters or grocers and quality such as they cannot sell to me."

Well, men (and women, too) you don't need to work hard to get your wish—

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Garden Drills and Wheel Hoes

do the work for you. They are practical, every-day tools, which, when set to do certain work, need only to be pushed ahead a step at a time. They do all of the hoeing, cultivating, weeding, ridging, etc., open furrows and cover them and plow in some soils. The drills open the furrow, sow the seed, cover and roll it and mark the next row. High wheels, steel tube frame and self-cleaning side hoes distinguish Iron Age tools.

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found the most simple and satisfactory.

As to varieties, there are so many good sorts that one hesitates to recommend any selected few. Of the extra-early round-seeded sorts, Alaska (earlies of all) is one of the best and most satisfactory. Best Extra Early and Clipper are other good varieties, but these are only a few days earlier than the early dwarf wrinkled sorts. Of these latter two of the newest, most remarkable and best are Laxtonian and Blue Bantam. They are similar but not alike. But either one is, I believe, a big advance over any dwarf wrinkled pea we have had before. It is dangerous to recommend novelties, but if you try either of these I think you will thank me for calling them to your attention. Little Marvel and Reading Wonder are two other well-known wrinkled sorts, but they are not so fine in quality. British Wonder, Dwarf Champion, and Senator are three extra fine dwarf wrinkled sorts and are a little later in maturing. My own choice is a combination of Blue Bantam and British Wonder. Of the taller early wrinkled sorts, Gradus, Early Morn and Thomas Laxton are all excellent, while of the tall, late wrinkled sorts, Alderman, Boston Unrivaled (Improved Telephone) and Royal Salute are all extra fine. Personally I prefer Early Morn and Royal Salute, on the ground of stronger growth and surer cropping quality rather than any difference in table quality. The four sorts which I have mentioned in particular, Blue Bantam, Early Morn, British Wonder and Royal Salute, are all of English origin, as, indeed, are a majority of our other good peas. The English soil and climate are particularly adapted to the growing of this most delicious vegetable.

A type which I have not mentioned is the "sugar" or edible-podded pea. They are little grown in this country, but the best of the type, Mammoth Melting (or Perfection) Sugar, are, however, really delicious if the pods are gathered before the peas are half-grown in the pods.

Peas need a deep, rich soil. The dwarf sorts especially are intolerant of poor or shallow soil and amount to little upon it. Much care should be taken not to make the soil too rich with manures and fertilizers that are very high in nitrogen, as this will produce a growth of vines and leaves without a proportionate crop of pods. In applying manure directly where the seeds are to be planted, be sure to use only that which is thoroughly old and well rotted. The best way is to select ground which was thoroughly manured the previous season and use fertilizer for the present crop.

The round seeded sorts may be planted the very first thing in the spring, even before the frost is out of the ground, but be sure to plant them only where there is thorough drainage, in what is known as "quick," early soil. Later plantings, and especially those made for the summer crop, will do best if planted on a rather stiff or

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Finish with Lowe Brothers Inside Rubbing Varnish which can be left in natural gloss or given a rubbed finish.

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Lowe Brothers, Ltd., Toronto, Can.

clayey soil. The tall sorts are usually planted in double rows, eight or twelve inches apart, with rows three and a half or four feet apart, and brush or wire is put in the rows for supports when the peas are some six inches high. The dwarf sorts may be planted one foot to three feet apart, according to the variety, richness of the soil and whether they are planted in double or single rows. A good method is to plant four rows a foot apart and then leave two or three feet between that bed and the next four rows.

The first two or three plantings should be made very shallow, not covered over a half an inch to an inch deep. Later, when the ground is thoroughly warm, they should be planted two to three inches deep, and summer plantings in June should be put in, if in light soil, even three or four inches deep, as this insures better germination and more protection from drouth. Should the first planting get up an inch or two high and a very severe cold snap threaten, put the "hillers" on the wheel-hoe and go over the rows, covering the plants up entirely with earth. When moderate weather returns, this can be easily removed from the tops of the plants by the rake, potato-fork or fingers. Keep the ground well cultivated from the time the peas get through the soil, not only in the rows, but also in the spaces between them, and when the plants are six or eight inches high give a light dressing of nitrate of soda, being careful not to get any of it on the leaves. This will stimulate growth in a very remarkable way. Whether you use brush or wire trellis for support, be sure to put it in firmly and before the vines begin to lop over in the slightest. In putting brush in, use a small crow-bar and see that the butts of the branches are well sharpened before you begin the job.

With irrigation it is possible to have the finest of peas thoroughout the entire summer. Unless water can be supplied artificially, however, there will, in most seasons, be a period during late July or August when it is not possible to keep the vines in condition. For the late spring plantings use a strong-growing late variety such as Alderman or Royal Salute. Then in August, immediately after a good rain, if one comes along, plant again an early variety, such as Laxtonia or Bantam (dwarf), or Gradus or Early Morn (tall), for a fall supply. The long, cool nights of early autumn are ideal for the development of an excellent crop.

Peas are comparatively free from disease and insects, the pea-louse, which is a grayish-green aphid, being the only one likely to cause much trouble. These can be taken care of easily if you will spray the vines with kerosene emulsion upon their first appearance. If you let them get a start you will have your hands full, as they multiply with amazing rapidity.

Do not forget these hints when the time comes for pea planting. Attention to them will be well repaid, both in quantity and quality of the crop.



IT is only through a personal visit that our splendid stock of requisites and luxuries for home furnishing may be really appreciated.

Andirons—of hand hammered gray wrought iron. Full of genuine character and durable as the hills. 26 inches high - - - - - **$15.**
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Bellows—of leather and wood, studded with brass knobs. Brass nozzle. Length, 19 ½ inches. Worthy of use in the finest homes but priced at **$3.25**
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Cape Cod Fire Lighter--to be used in place of kindling wood. Dull Brass Tankard for Kerosene. Twisted brass rod with porous stone end. Practically everlasting . **$3.50**





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How to Go About Planning Your Home

(*Continued from page 24*)

house will be more economical.

You should now be prepared with a plan study expressing all desires, fortified with notes on the site for house, its environment, required appointments, character of materials of construction and finish so as to enable your selected architect to develop the exterior, modifying the plan requirements to the design. Now comes the preparing of practical working drawings, details and specifications, in which the material and construction will be intelligently specified, thus enabling and ensuring the receipt of competitive estimates from general contractors, all figuring on a standard basis.

Under no circumstances should a man of any other vocation be his own architect; there are too many pitfalls and thousands of costly examples, also sad experiences, which the layman has suffered; expensive changes and extras avoided will be more costly than the fee of a professional adviser.

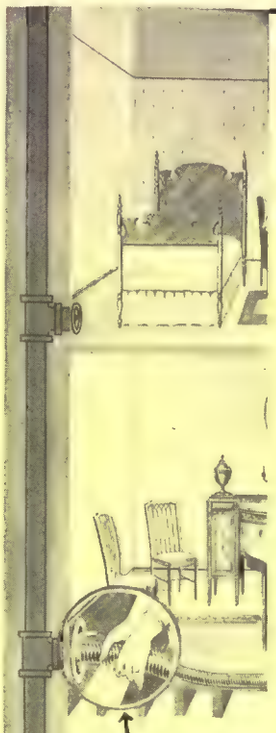
Study the plans illustrated; they will not only bring out the desirable points of planning but will give new ideas of plan variation.

Many Inventions for the House-Builder

(*Continued from page 17*)

In connection with heating are several other appliances for maintaining a uniform temperature. One is the Thermostat; a small instrument placed on the wall of the room. An indicator is set at the desired temperature, which is registered on a dial. A change of a degree affects a sensitive metal strip, causing it either to expand or contract. When it touches either of two points it closes an electric circuit, which releases a motor driven by a weight in the cellar. This operates the furnace draft until the desired temperature is again reached, when the sensitized metal strip expands, stops the motor and leaves the drafts at the proper position. A clock attachment makes it possible to have the heat controller set for a lower temperature at night, but changes the indicator at a given hour in the morning, in time to have the room at a comfortable temperature when one arises.

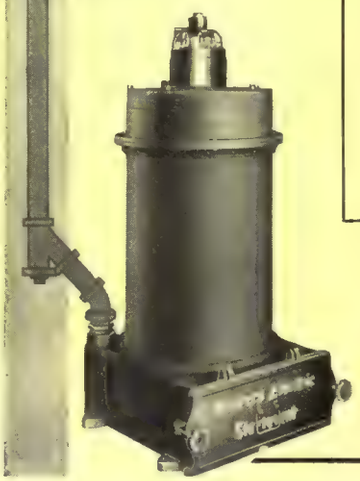
The Regitherm is another simple device of this sort. Its indicator for the degree of temperature to be maintained is controlled by a key. An extremely sensitized liquid is contained in a fine brass bellows within the device. A change in temperature creates a force which expands these sealed bellows. The tiny fraction of their movement is sufficiently great to move a balanced lever arm. By a mechanical principle this slight force is multiplied so that passing down a chain



This shows the inlet for the hose and the simple method of attaching it for cleaning.

Every part of the Western Electric-Sturtevant Stationary Vacuum Cleaner system reflects the same simplicity and ease of operation. It cleans efficiently.

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It is a simple matter when building to have the house piped for a Western Electric Stationary Vacuum Cleaner, running the suction pipe from cellar to rooms, inside the walls, along with the water, heat and waste pipes. From this suction pipe neat inlets open through the baseboard in each room, to which the cleaning hose is quickly attached. These inlets do not protrude from the baseboard to collide with furniture. They have hinged covers which drop over the inlet when not in use. The

Western · Electric

Sturtevant

Stationary Vacuum Cleaner

denotes the most modern home. When ready to clean lift the cover of the inlet, attach the hose, press a button starting the electric motor-fan combination in the cellar, and down goes every particle of dust and dirt into the collector. After that room is cleaned, stop the motor, take out the hose and start cleaning in the next room.

Perfectly simple! Equally simple is the mechanism. No gears, no bellows—nothing to wear out or leak. Just a motor and fan on one shaft and an ample dust bag. Best of all, no dirt passes through the fan—no clogging. All these things result from the application of the best engineering skill.

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Run the wires while the house is being built. Then, even though you may not wish to install Inter-phones at once, you can use the wires temporarily for push-button calls. A wall-plate device—something new—like the one shown, can be used and the Inter-phones "plugged" in later on without running new wires.

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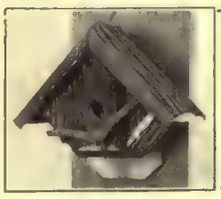
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No description can do our Indian Summer Chrysanthemum quite justice. Its name suggests golden sunshine mingled with russets and deep rich reds. It's all the name implies.

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Furthermore don't omit the pompons and single varieties of Chrysanthemums that have lately been so much talked about.

As you have already surmised—all this array of Satisfaction Plants has something to do with our asking you to send for our catalog.

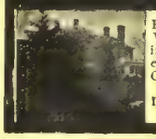
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Meehans' Hardy Plant Specialties and Garden Bulletin for Spring 1914



Japanese Styrax

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Plants 3 to 4 feet, $1.00 each.
Merely one of many uncommon specialties in *Meehans' Spring Specialty Book for 1914.*

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TREES & PLANTS
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within the wall it can operate the drafts of the furnace. It requires no electric motor force. Both of these devices are permanent and can be used with any ordinary heating appliance.

Economic appliances can be connected with the kitchen range. One is a ventilating device set in the kitchen flue. Simply operated by a chain it creates a draft to draw off odors and extra heat into the kitchen chimney. For the saving of fuel a connection can be made from the range into the cellar whereby all the ashes slide down a chute and fall over an ash-sifter, the cinders being thrown into a barrel for reburning and the ashes into another receptacle to be carried away.

The electric vacuum cleaner is another labor-savor. Such vacuum cleaners are made especially for the moderate-sized country home and occupy only a very small place in the cellar. The pipes branch up to each floor and sockets are placed in the baseboards of rooms at an advantageous position, so that all the dirt is drawn down into the cellar into the retainer which forms a part of the cleaner. This is removable and may be dumped directly into the ash barrel. Such an installation relieves the carrying up and down stairs of sweeping supplies and delivers the dirt in the most sanitary fashion, where it belongs in the waste container.

Mechanical improvements have kept pace with electrical; for instance, there is the garbage incinerator, really a wonderful addition to the peace of a home. One becomes absolutely independent of the clattering garbage can that attracts flies and spreads odors. All the waste of the house is quickly converted into ashes. Such a refuse burner should do much toward eliminating chance of catching disease. If one cannot make such an installation as this, there is a simple garbage container, set outside by the servants' entrance of the house and below ground. Its cover is hinged and operates by stepping on a foot-lever. The garbage receptacle is beneath this lid and closes tight automatically. This method of letting into the ground receptacles for garbage cans has been duplicated in the cellar for the ash-can.

In connection with the service department probably one of the simplest divices is a removable steel clothes pole. This fits into a socket let into the ground and is of use on washing days only, doing away with the ugly standing poles. The revolving type of clothes dryer can be had in this removable form.

The cause of sanitation is furthered by various means of water filtration. A filter may be attached directly to the water main where it enters the cellar. Strongly constructed it gives a lifetime service. All that is necessary to operate such a device is the periodic movement of a lever, which allows the filter to clean itself automatically.

Instead of using the filtration method there is a device attachable to the water

faucet which aërates water. The action is based on the theory that ozone or super charges of oxygen will purify and sterilize water.

A great convenience where water is concerned is the shower mixer. The objections to the shower bath are removed by means of such a device, for it permits one to blend hot and cold water to the required temperature without the usual dash from boiling point to freezing. Shower baths are now being manufactured which come from the wall, and direct their spray so that it does not wet the hair. This should remove the women's objection to them.

In connection with lighting there has been devised a wall socket, which enables the portable gas lamp to be used just as the portable electric light is. This pneumatic socket can be placed either in the floor or the wall and the gas pipe may be pushed into it much as the electric is inserted. The portable lamp itself is found in a new electric form, which give indirect lighting from a portable source. The light is thrown on the ceiling and diffused around the room although the lamp gives the impression of being a direct source.

What Style Shall We Choose for the New House

(*Continued from page* 13)

less tractable though one of the most delightful of styles in its vigorous, full-blooded opulence. Its use is properly limited to the large country house set in its own park with all the accompanying paraphernalia that this implies. It is for us a very especial case. The same is only slightly less true of the Italian villa, or even villino. It is a style with which one must be entirely *en rapport,* to weave into the hackneyed Italian detail the delicate aura of the Italian land.

There is here a largeness of demand on space, on pocket-book, and on a thorough and intelligent coöperation between architect and owner that must be carried down to the last chair.

There are some delightful examples that have been done recently in small and unpretentious work in which the atmosphere has been caught with the greatest success, the owner beginning where the architect left off, with the result that the artistic appeal is as unusual as it is delightful.

To take up now a more modest matter let us consider the Spanish Mission style. It has been forced, at least east of the Rockies, to find its expression in the bungalow. It is properly a style for hot countries and seems to fit California conditions extremely well.

The plan with everything on one floor, its patio, arcades, thick walls of stucco or masonry, flat roofs and great overhanging eaves, all speak of life in the tropics. If these peculiarities are respected as they should be, it is folly to expect it to cater to comfort in any climate having prolonged cold weather.



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Let us either use it, then, in a climate of perpetual summer, or if in a more rigorous climate as a house to be used only in the summer months.

We now come to a sort of work that is of no historic style, nor is it reminiscent of any. Neither does it constitute a style of its own, for all that its members have in common is an avoidance of any architectural indebtedness.

Its chief habitat is the large cities of the Middle West. It is a semi-suburban house of masonry standing free on a large city lot. It is expensive, often well designed and not infrequently creditable architectural performance. Whether it is its independence—an independence that is not quite originality—or its lack of historic background, its heterogenous use of whatever comes to hand, or a piratical levying on the work of every land and age without any attempt at assimilation, or what ever it is, there is lacking in this work real character and distinction. It is a mongrel, and clever handling cannot quite save it.

If this last is our own work there is another sort also ours of which we may be unreservedly proud. It is the shingled house—shingled all over, that is. This work is a real American achievement and an admirable example of the proper use of material, of unaffected planning, and of the requirements of the landscape. There is no precedent for this; it is not borrowed, and constitutes a splendid living example of the dictum that a true style is the unconscious result of a faithful, honest, sensible, solving of the problem in all its aspects. When we do these things conscientiously we get the style for nothing.

We have lately shown signs of becoming tried of this lead; but it will stand a lot of doing yet, for it is full of fertility, charm and picturesqueness, and, best of all, it bears the easy stamp of the national genius.

In spite of what is sometimes said to the contray, architecture, and more especially house building, is a live and progressive art in this country. The demand for good work is calling forth the supply—as it always does; and our best work as it is being done to-day is of a degree of excellence that is unrealized by those who do not keep in touch with such matters.

If one will but see to it that his problem is given as much brains, money and time as is possible he should not fear for the outcome.

The Water Supply for the Country Place

(*Continued from page* 39)

on a higher level than the house or garden and letting gravity do the work. The tapping of such a spring or pond should be made durable by building a little dam of concrete on one side and running the pipe through it. A good screen should cover the opening of the pipe to keep out grass, leaves and sticks. Otherwise the

pipe may get clogged and endless trouble follow.

Where the gravity system is used a suitable reservoir should be built of field stones and concrete. This will always keep water under higher pressure at hand when a considerable amount is needed.

We should learn to save water. It is one of the essential things of good gardening and farming. The overflow of a gravity system or storage tank should always find its way into pipes that carry it to the garden for irrigation uses. The overflow of garden fountains and fish ponds should be utilized in the same way. One of the prettiest garden fountains in the country is thus equipped with an irrigation overflow.

"What a waste of water!" people often exclaim when seeing this fountain playing in dry weather. But there is no waste. The fountain is simply an ornamental part of a perfect irrigation system. The water comes down from the reservoir and spurts up in a spray to furnish lilies and fish with sustenance. It then flows through a pipe and is distributed between the rows of garden truck to furnish them with proper moisture. Anybody who uses an irrigation system can thus have a fountain playing without wasting a drop of water.

The storage of rain water for general uses is one that finds favor with many living in the country, but unfortunately it is often of so primitive a character and so small capacity that it proves of little real value. One or two barrels to catch the rain water make up the equipment. There is always, except in very rainy weather, a scarcity of supply.

Instead of rain barrels or a small tank big reservoirs holding from thirty to forty thousand gallons can be constructed on the back of the house or barn at little expense. The most durable forms of rain water reservoirs are made of rough field stones cemented together with concrete. This can be built of any capacity desired. They will never overflow then, but hold enough water to carry one along from one storm to another. The upper part of such a tank can supply the house with water, and the lower half can be carried in pipes.

Do you know how much rain water falls in the course of a season? The average barn will collect enough to furnish water for all the stock kept in it right through the season if all of it is stored. The same is true of the house. The trouble is we do not build tanks or reservoirs of sufficient size to collect it.

Two things should be observed in storing rain water. One is that all dirt should be excluded, and also all bugs, rats and birds. The other is that sufficient ventilation should be given to keep the water sweet. The top of the tank should have a sloping roof, but under the eaves of it there should be an open space of at least two inches extending the full length. This opening is for ventilation, but it should be carefully screened with fine

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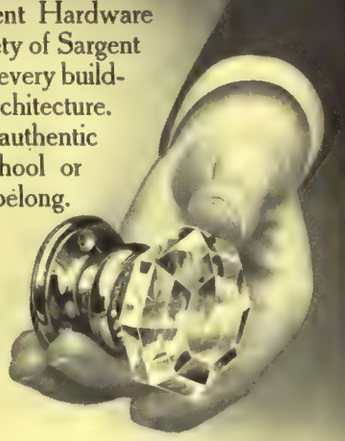
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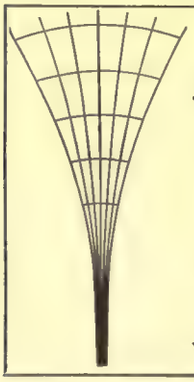
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mesh copper wire. This will keep out all bugs, leaves and rodents. Once a year, at least, in the spring, a rain storage reservoir should be cleaned thoroughly, and the top left off for a week for the sun to dry it up.

Saving the water is as important in the country as using it. Rain water in particular should be saved for use. It is the softest for washing imaginable, and plants appreciate it as well as we. They do better when irrigated with rain water than when supplied with pond or river water.

All overflows of tanks, fountains, fish ponds and reservoirs should connect with pipes that run into the garden. With properly constructed ditches all the waste water will be taken up by the plants. We can never have perfect gardening without irrigation of some kind; sprinkling with a hose does not compare with it. The plants get the water where they most need it—around their roots—and the loss through evaporation is very much less.

My Wild Corner

PROBABLY you have seen the picture of the little girl with her hair standing on end, and her eyes as big as saucers, staring fixedly at some flowers growing along a woodland path. "What is the matter?" someone asked. "Oh, I'm afraid," faltered the little girl in trembling accents, "The flowers are wild, you know."

If this little girl found herself in the southeast corner of my yard, she would be still more frightened, for there are not only wild flowers in abundance, but wild vines, ferns, shrubs and trees.

The "wild corner," as I call this portion of our grounds, is separated from the lawn by a semicircle of five evergreens—spruces, firs and a pine; we enter it by a grassy pathway between two spruces, which, by the way, were set out in the yard the same month in which our little daughter was born. There has ever since been quite a race as to growth, with the spruces in the lead as to height and the little girl ahead on weight. We stop to peep under one of the spruces at the wintergreen, thriving lustily fifteen hundred miles from its birthplace; under the fir is the ground pine, and the trailing arbutus grows under another spruce. The brave little hepaticas send up their cheery blossoms under another fir, so early in the spring that we always think they must have made a mistake.

In the vicinity of the water faucet, which is itself hidden by an Indian currant bush, is a damp place where a big pussy-willow, the meadowrue, mocassin-flower, bluets, meadow lilies and ferns of various kinds feel very much at home; a little farther on is a border of bane-berry, wild ginger, Solomon's seal, the false Solomon's seal, and wild roses, all in front of a giant gooseberry bush of the native Nebraska variety. This bush makes an ideal nesting place for the cat birds and chipping sparrows, and is used season after season; just

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beyond is a red-bud tree from Arkansas, and in a sunnier place along the east side of the garden are planted the Nebraska and Vermont golden-rod and asters, crow-foot violets, buttercups and a few field daisies from Massachusetts, and the common brake fern from Missouri. Then in the extreme southeast part of the wild corner is a splendid thicket of wild plum, bird-cherry and choke-cherry, sumach, elderberry, wahoo, a flowering dogwood from Missouri, and a mountain ash from Colorado. All through this thicket are wild phlox, anemones, ferns and violets.

Along the south side is a hedge of Indian currant and wild gooseberry vines, in front of which was the ori[illegible] attempt at a wild garden. Here are violets of all kinds and colors—yellow, blue, purple and white, adders' tongues, Dutchmen's breeches, Jack-in-the-pulpits, May-apples, partridge berry and twin-flower vines, trilliums and bloodroot and seven different kinds of ferns; clambering through the big elm over this part of the corner is a bittersweet vine.

Near the outer edge of the wild garden is a bonny brier bush, which a dear old Scotch grandmother brought with her when she came to this country to visit her children and grandchildren. She went back to her home when the visit was over, but the poor little bush had to stay, and it has not been very happy so far away from its old home. It has been in our garden for five years now, and as far as we can see it has not grown an inch; still it lives, and every summer puts forth four or five sickly little pink blossoms.

Nearly everyone has the souvenir habit more or less severely in some form or other, and this wild garden is my souvenir collection. Every time I go on a trip, I carry along an old trunk or valise, and the last thing before leaving for home I go out into the woods and along the roadsides, and either dig myself or do it by proxy, until I have enough roots, plants, vines and shrubs to fill the trunk or valise. I pack the precious roots carefully in moss, wet papers and rags, and just as soon as they reach our premises out in the wild corner they go. I try to make them feel as much at home as possible. Nebraska soil is naturally a heavy, rich loam, so for New England or Southern plants I mix in a lot of sand and gravel; sometimes I beg small stones that have been sifted out of the sand where a new house is being constructed. For ferns and wood plants, I work in leaf mold (I always have a pile of it on hand in the kitchen garden), and if the vine or fern has been growing right on a rock, I buy, beg, or perhaps even steal a few rocks from where a stone foundation is being laid in the vicinity, for rocks and stones are an unknown quantity in this part of Nebraska.

During the winter, I cover most of the wild things with fine brush, then leaves, and over that, coarser brush, as we have no blanket of snow to keep them comfortable all winter. The fine brush keeps the

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leaves from matting down too tightly on the plants, and the coarser prevents the leaves from blowing away in our high winter winds. It is the alternate freezing and thawing of our climate which is so hard on the flowers that come from New England or any of the Northern States, as that process stretches and tears the tender roots, and soon destroys the plants unless they are protected artificially, even though the temperature never goes as low as where they grew originally.

This souvenir garden of mine is an ever-increasing delight. Every time I go near it, whether to work in it or to show it to someone, or just to enjoy it by myself, it calls up pleasant memories and associations, past pleasures and the kindness of many dear friends and relatives.

When I stop by the lupines and Indian paint brush, I smile as I picture myself digging them up in a driving thunderstorm, crouching under an umbrella held in one hand, while with the other I dug frantically with a pen-knife, for it was the last fifteen minutes of my stay in Yellowstone Park, and I knew the train would not wait until the rain stopped.

The bloodroot and many of the ferns recall a happy fishing trip on the Minnesota lakes, and again I can almost smell the fragrance of frying fish and boiling coffee, when we cooked our shore dinners over an open fire.

Here is a group of four different species of ferns which came from a farm in Kentucky. I met a young lady on the steamer one summer, going from Norfolk, Va., to Boston, and when she learned how I loved my wild garden, she promised to send me some ferns when she reached home. I was pleased with the promise, but in my own mind felt that she would probably never give the matter another thought; however, in due time the ferns came, carefully packed. They have thriven well and I feel grateful every time I see them that a casual acquaintance could keep a promise and so enrich my corner of treasures.

The May-apples, wild verbenas, anemones and some of the ferns remind me how my brother goodnaturedly dug them up for me when I visited him in Arkansas; and the wintergreen, trailing arbutus, hepaticas and many others bring to mind the lovely vacations we have all spent with my husband's people in Vermont; the Jack-in-the-pulpits, vetch, the golden-rod, violets and various shrubs, plants and vines indigenous to this part of Nebraska recall many a happy afternoon's jaunt behind our faithful family horse into the country surrounding our home, with a picnic supper on the roadside, and a setting out of the garnered plants in the cool of the evening. I might go on and on with the record, with instances too numerous to mention, but all contributing to the joy of the wild corner.

The teachers in the near-by school, and the children in the neighborhood, all know of the corner's treasures, and come to beg a leaf or a blossom of this or that for use



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H. & G 1-14 Address.....

in the school, and in the fall, when the sumach is in its glory, it has decorated many a festal table for my friends; for autumn foliage, especially in the red coloring, is a rarity in this region. In the spring the dear little fuzzy pussy-willows are a delight to many a child and grown-up as well. I love to take my friends on "a personally-conducted tour" around the garden, and my husband says I am never so happy as when I can show my wild corner to a new victim. I notice the "victims" enjoy it greatly, too.

The birds appreciate it fully; they nest in the bushes and trees, or in the boxes and gourds which we have put up for them; they drink and bathe in the pan of water which is daily filled for their use, and placed on a weather-stained shelf in the crotch of a tree; the robins are so tame that they run for the worms that I dig up and throw in their direction, and all the birds show their appreciation by their generous singing and their friendliness and fearlessness.

My own little folks love to play there, too, and in the summer the baby carriage or homemade canvas crib is always to be found during nap-time under a tree.

This corner of mine is better than any medicine, too, for the work of keeping it in good condition is so health-giving, and, above all, it brings me closer to the heart of mother nature than anything else I know of; it is such a joy to feel the dirt with my fingers; to sit on the ground weeding or planting, and feel the soft wind on my face, or the warm sun on my back, and to smell the green, growing things.

LILLIAN S. LOVELAND.

CORRESPONDENCE DEPARTMENT

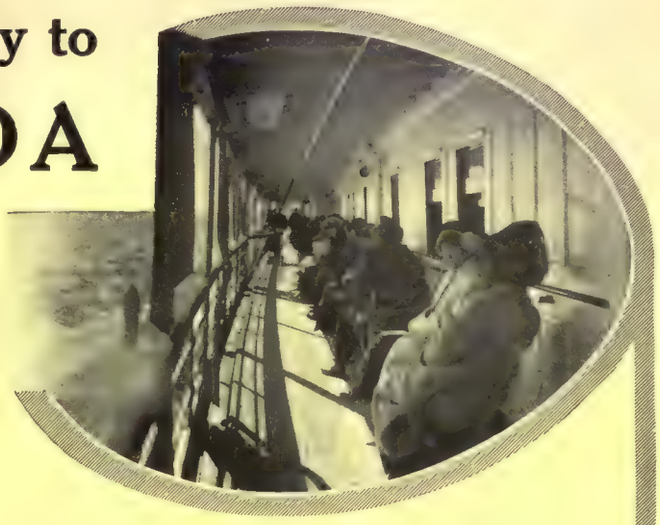
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Interior Decoration Department: — I am enclosing rough draft of floor plans of our remodeled home to you for advice concerning wall treatment, finish and color for each room, especially down stairs. According to former advice, expect to use white in all but dining-room, which will be oak. Suggest treatment of hall, and also concerning paneling in that and in dining-room. I have marked directions, so that you can tell about light and sun. Expect to buy new rugs for living-room and dining-room, possibly for little daughters. Have blue rug for guest-room, one in green, blue and brown, also same carpet in brown and red with dark-blue ground, Persian pattern, which I would like to use for upstairs hall if all right. I shall be extremely grateful for advice and trust that you can answer very soon. We wish our home to be in good taste and homelike.

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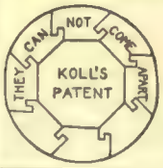


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DEAR MADAM:

I think it a very good idea to have the woodwork throughout the house—except in the dining-room (which might be the same, if you wished it so)—white or ivory. The finish of each room could be varied by "antiqueing" it; that is, after the woodwork is enameled white or ivory, a little tan or any color, according to the color of the room, can be put on and then rubbed off with soft rags. This leaves a little color in the crevices of the moldings and produces a much softer and more harmonious effect than the plain white.

For the living room, I am sending a tan-silk fibre paper, with a handsome frieze which can be finished by a white molding on which to hang pictures. Am sending an amethyst velvet as a suggestion for the portieres and side curtains, etc. As you will see, it is a most beautiful combination of color. The rug in this room might be double-faced Smyrna rug of a little darker tone of amethyst, or a Caledon.

For the hall, I have chosen a grass cloth of green and gold, and suggest a plain green rug and stair carpets.

For the dining-room, I have chosen a handsome tapestry paper, which can be treated as the sample suggests below the molding or plate rail, if there is one, using the Japanese gold paper above. Of course, cutting out the background of the paper means quite a little expense if done by a decorator, but it might be done at home by using a sharp stencil knife and cutting it on glass.

I would suggest that the finish of the oak trim be dark and not highly polished.

I think the carpet you mention might be used in the upstairs hall. The grass cloth might be used for the downstairs hall, only, as it is rather expensive.

I am not quite sure what you mean by the paneling of dining-room and hall. Do you mean that the trim divides the wall space into panels, or do you wish a paper that gives a panel effect? Assuming that you mean the former, I have chosen wall covering that will be very effective.

For the northwest bedroom, I have chosen a paper which embodies the colors of your green, blue and brown rug, thinking that rug might be used in that room.

I should recommend the use of either style of rug in any of your rooms; where the paper has a simple pattern, the Caledon rugs might be used—having figured borders—in which the principal colors of the room can be repeated.

Where the design of the paper is prominent, I should use a plain Kalliston Smyrna. The border is simply a deeper tone of the body of the rug. These double-faced Smyrnas can also be made to order in any color desired—the cost being little above the price of stock colors.

Throughout the house, I should have soft net or scrim sash curtains. From without the effect of the house is much better when all the window draperies are the same. The inside curtains and over hangings may vary to suit the requirements of each room.

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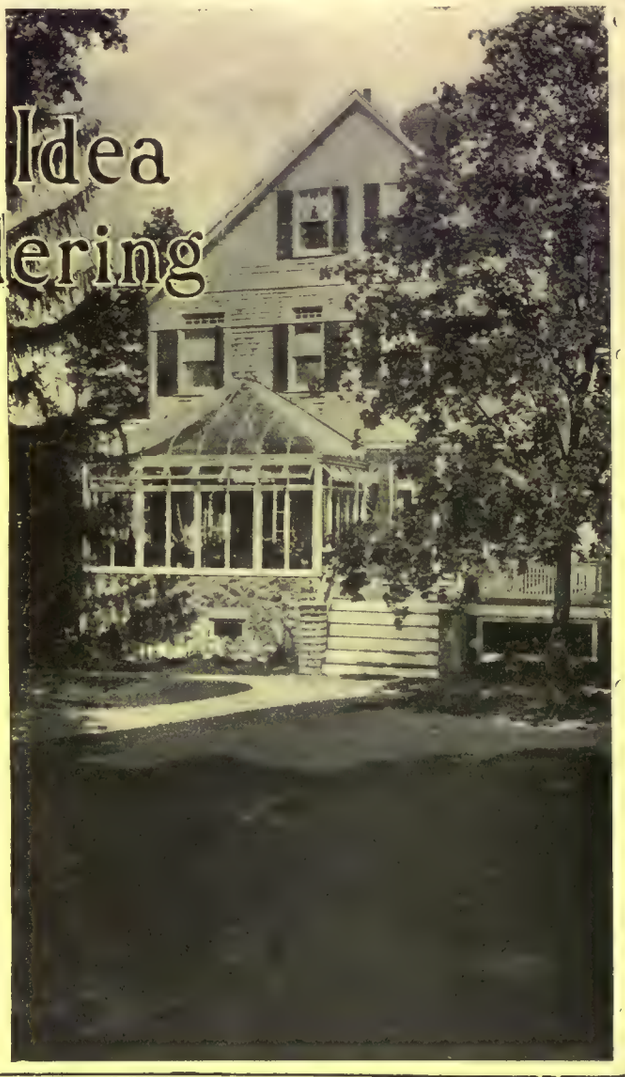
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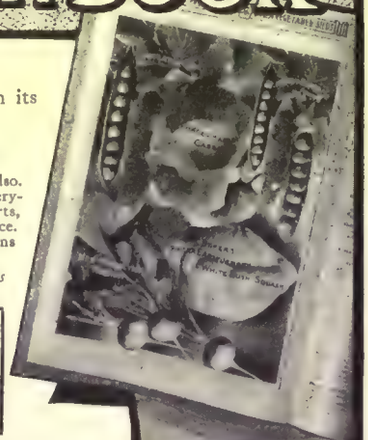
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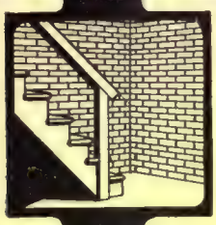
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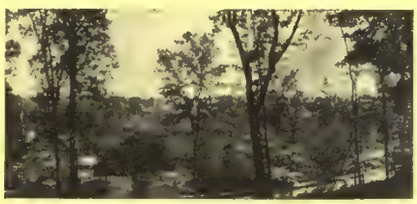
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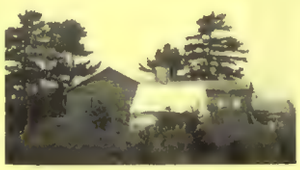
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THE HOUSE FURNISHER'S BULLETIN

New York is the market place of the world and into its shops, great and small, pour all the best products of the artisan, the decorator, and the furniture maker. All that goes toward making the home of good taste, may be purchased in this city. To give the readers advantage of the city's shops, the sharp eyes of experts are to be constantly employed in ferreting out for this column all that goes to make the house distinctive.

THE new style reading lamp that has a floor standard about four feet in height, and is, of course, fitted for electricity, seems to have proved itself so useful that it is made in a great variety of different designs. There are not only the handsome lamps of ornamental bronze with exquisitely colored shades of favrile glass, but much less expensive styles are shown that are for use rather than ornament. These include lamps with wooden standards and the regulation reading shades of tin, done all in white; some that are painted in ivory shades and are rather more ornamental, and others with plain standards of greenish bronze, and green reading shades. All of these lamps, which are tall enough to come well over the top of the ordinary easy chair, are made so that the light can be raised or lowered, and the shades are movable and can be turned at any angle.

AN up-to-date edition of the useful silver chest is shown in a mahogany table that makes a handsome piece of furniture and still answers the same purpose as the chest. It is rather plain in design, with slender legs, and is about the height and size of the average serving table and can be used as such if desired. The top lifts up, showing a compartment about six inches deep, with a sliding tray, and fittings for the various pieces of flat silver, the capacity being just about the same as that of a good-sized chest. The table has a stout lock, but except when the top is up it looks like an ordinary side table and would never be suspected of concealing silver.

AMONG the new ornamental mirrors are a number with plain frames of solid mahogany and panels inset with colored prints, a combination that is most satisfactory and attractive. A long, narrow mirror has a beautifully colored copy of the Duchess of Gainsborough in a panel at the top, and a larger mirror for use over a mantelpiece is in three panels, a mirror occupying the large center one and copies of Reynolds' portraits of children at either side. In the same collection is a mirror with a gold frame, evidently a reproduction of an antique, for the frame is beautifully proportioned, with small columns at either side, and in the panel at the top is the crudest sort of landscape imaginable.

FOR the library or living-room there is a useful table, the top of which folds over like the old-fashioned pier table top, and also swings around, showing a space underneath filled with games of all sorts. Cards, checkers, dominoes, chessmen, are only a few of the different varieties that it contains, and all of the necessary parts of the games are cleverly packed away in a comparatively small space. When opened out the top of the table forms a large square covered with green cloth, and in each of the four corners there is a sunken brass-lined ash tray.

THE evolution of the quaint old hand-woven rag carpet into really handsome floor coverings has been most interesting, and the newest designs shown are not only inexpensive but wonderfully beautiful, both as to coloring and pattern. One style that is particularly worthy of notice is done in solid colors, including most effective tones of blues and greens and browns, with borders about ten inches wide in a delicate design that makes one think of the lovely French cretonnes. Nothing in the way of floor covering could be daintier or more effective for bedrooms than these rugs, which may be had in all of the regulation sizes.

A WOOD box that is substantial and capacious, and at the same time unobtrusive, is a recently designed piece of furniture that ought to prove popular on account of its many good qualities. It is of fumed oak, mounted on casters, and so well put together that the heaviest pieces of wood can be thrown in without doing damage. It does not occupy much space, as it is only twenty-seven inches long and 20 inches from front to back, while its depth is six inches in front to about twenty at the back, with a top that slants correspondingly. While not strictly ornamental, it is quite suitable for use in a hall or general living-room, where comfort counts, rather than appearance.

SOME of the most beautiful of the many handsome lamps that are now being shown have standards of the exquisitely decorated Dresden china that seems to be coming into favor again for such purposes. The lamps are for use on desks or tables, and the standards are about three feet high, some rather in the shape of vases, others more slender but quite as effective. The shades used with these lamps are wonderfully elaborate, showing combinations of silks and beautiful quality laces, with gold and silver guimpes, hand-painted chiffon over silk of a solid color, and lingerie effects in the most intricate designs.

SOME new flower holders that may be used as ordinary vases and bowls or as centerpieces for the dining-table are of glass, and are fitted with silver rims and silver wire put over the top in crisscross fashion to hold the flowers in position.







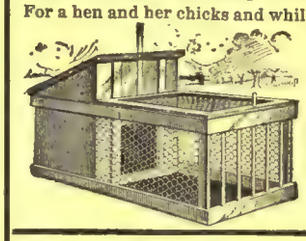
POULTRY DEPARTMENT

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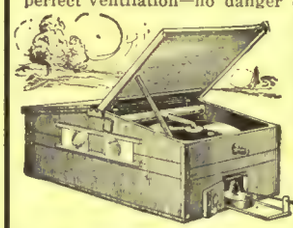
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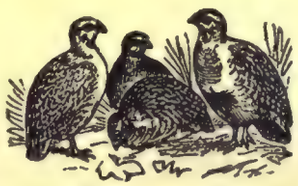
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The glass is cut or etched in beautiful designs, and the silver rims on some of the holders are plain, but quite elaborately chased on others. A great variety of the sizes and shapes are shown, from the small bowl that is no larger than the cut glass powder jar used on the toilet table, up to large vases and bowls, suitable for decorations of the most elaborate character.

QUITE the newest breakfast thing is an elaborate affair in copper, consisting of tray, egg-boiler and half a dozen cups. With this outfit the eggs are, of course, cooked on the table, and that receptacle for boiling them is fitted with an alcohol lamp or a small electric stove. The cups are of glass, set in long-stemmed holders of copper, and the tray is circular in shape and just large enough to accommodate the seven pieces. A similar set has a receptacle in which the eggs are coddled instead of being boiled.

FOR the ambitious window gardener there are some handsome plant stands made of mahogany in excellent models to correspond with Chippendale furnishings. These stands are just the size and shape of the regulation plant stand that is long and narrow and designed to fit in a window, and they have substantially made linings of heavy tin with handles at either end. Some are in the plain mahogany, while others are inlaid in the design usual in Chippendale pieces.

THE always useful thermos bottle is being continually developed and brought out in new forms to fill various wants, both indoors and out. The newest indoor capacity in which it is made to serve is that of furnishing a constant supply of cold drinking water, and of usurping in a way the place of the good old ice-water pitcher that was a worthy object, but could not be made to keep cold after a certain time. This particular bottle is of good size and shaped like a carafe. There is a nickel frame into which it fits, and in a small rack at either side is a drinking glass. The whole thing is easily picked up and carried about, and the water, of course, will keep cold for hours.

AN additional comfort to a great, big comfortable looking leather-covered chair is a movable book rest that can be taken off entirely when not in use. In each of the broad, well-padded arms of the chair is a metal slot arrangement into which the highly polished nickel holder fits. The holder is about twelve inches long, and when it swings around it brings the little mahogany book rack attached to the end in just the right position for one's book or paper. The chair is so broad that the slots are in both the right and left arms, so that the holder can be placed most conveniently, but they do not detract at all from the appearance of the chair, as they are scarcely noticeable.

Making a Winter Vine Garden

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"Too late for this year?"

Not at all, as we can show you, while we tell you what vines should be grown.

Of these there are so many that it is difficult to know where to begin, unless, after the method so dear to the children it is "at the beginning," which, in this case, is certainly with the German and English ivies. In these hustling times the ease with which they may be grown should appeal to busy plant lovers, especially those who, like the writer, can recall rooms whose walls were draped and ceilings hidden with the English ivy, while in a sunny window flourished its German cousin, the two vying with one another after the fashion of the royal houses of their respective countries. For the same amount of care English ivy will give more pleasure than any other plant unless it is the humble "Jew." Under the greenhouse benches slips of "Jew" and English ivy are always to be found, and he is a soulless florist who will not give you enough slips to start a garden, while with the German ivy all you will need cost a few cents.

Having secured the slips, put them in a bottle in a sunny window. The "Jew" will root first, the German ivy next, then the English ivy will show its strong white rootlets. All may be left to grow where they are with changes of water, and a bit of charcoal to keep it fresh, and it is always pleasant to keep some growing in this way; but take out such of the ivies as you would have make fine plants, two or three in a pot. The soil is not a matter of great moment, but it should be fairly good, not clammy, or too sandy, and the pot must be well drained. This done, the English ivy may be placed in a sunny window or in the most shaded one you have—it will even do very well in a windowless part of the room, but a moderate amount of light is best for it. All it will need now will be water when it is dry—not a little every day—occasional plant food, and cleanliness of leaves, as a precaution against its only enemy, scale. The German ivy, on the other hand, will beg to be placed in your sunniest window, and there, with frequent waterings, sprayings occasionally against its pest, the green aphis, and a little food at long intervals, you will have the friendliest, most grateful of companions during all the long winter months.

After—no, with—these two standbys, comes "Wandering Jew," for it has for your purpose just as many merits. There are several sorts: the variegated with under side of leaves purple; the variegated with leaves white, pink and green, not always continuing true to type, but lovely; and the best of all, the plain green, which will, in all probability, burst into a cascade of tiny feathery blossoms before spring.

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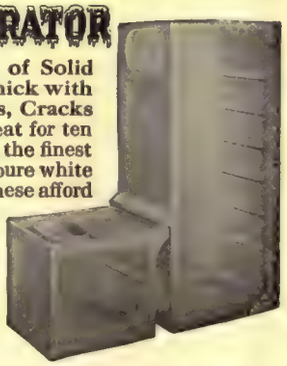
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This, too, will grow in earth or water, and a handsome specimen in a pot, turned often enough to secure symmetry, is a delight to the eye. Grown in water in bottles which its own leaves will soon conceal, it may be hung against the wall or under a picture. Grow as you like, in sun or shade, only—grow it!

Now with these we know your taste for a vine garden will have so increased that, like Oliver, you will be "crying for more." Then why not try some cobea vines? Of course you can grow them and passion flowers, too, both scarlet and purple, though the latter are the most satisfactory. I well recall two sunny windows overhung with these two vines, and their lovely soft-hued flowers, the cobea turning from emerald to violet as it aged, the passion flower full of meaning with its crown of thorns, its nails, and hammer, suggesting the passion from which it took its name. There is no difficulty about having these flowers, even now. In the summer you might have started both from seed, but you can still have the cobea from seed, and one or more passion flower vines cost little, and will grow like weeds. The cobea seed you must plant, sideways, in a pot of good soil, after soaking over-night. Cover with a piece of glass, water well, place in a sunny window, and wait! They will come astonishingly soon, only you must take care to raise the glass occasionally so that the moisture does not become excessive.

And while you are planting cobea seeds, plan for other vines. Plant in the same way morning glories, the old-fashioned, or the Japanese kinds, or both. In about six weeks they will bloom, and keep on indefinitely. They seem to love the inner atmosphere of the home, as well as that outside. Then try some seeds of the nasturtium, the trailing kind, or, better, get a few long sprays from the florist and root them while you are waiting for the seeds to come. At the same time remember the canary bird vine—lovely, delicate thing! Seeds should be planted as above. If the birds have not stolen them all some of the common garden cucumber vines will have their seeds still in the pods, and these are so swift to come, and grow so luxuriantly that they will almost run away with your vine garden. Vinca, so lovely in summer window boxes, will grow well for you, both varieties, but it is hardly to be recommended, as it is so subject to the aphis that its presence contaminates cleaner plants, but there are the tubers of the Madeira vine, which may be planted, and will quickly respond to sun and moisture with a luxuriant growth of vines.

Of course you have, or will have, one or more of the perfect asparagus fern, wrongly so named, but a most charming vine, and others of its more robust sister, the *Asparagus sprengeri,* the latter a greedy creature, liking occasional meals of warm water in which well-rotted cow manure has been soaked until the liquid is the color of tea; but, in return, how it will reward you!

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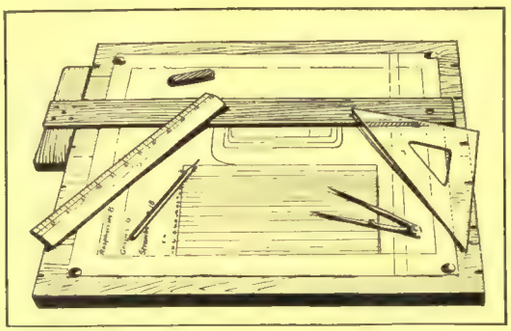
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WILLIAM A. VOLLMER,
Managing Editor.

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The training of the architect gives him the power of constructive vision, so that he sees the finished building in relation to its site when it exists only in the blue prints. Here is a newly built house where the careful utilization of natural features adds to the effectiveness of the design and makes it appear to have been long a part of the landscape. Mann & McNeille, architects

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Adventures in Bird-land

CAMERA EXPERIENCES AMONG THE WILD BIRDS OF THE FLORIDA EVERGLADES — THE LIFE OF A TYPICAL NESTING COLONY — TAMING THE BIRDS WITH FOOD

BY A. W. DIMOCK

Photographs by Julian A. Dimock



"As we drew nearer the game grew uneasy, and three pelicans looked enquiringly at one another as they fidgeted about"

SLOWLY the girl crept along the deck with leveled camera, breathlessly watching the tern that clung to my finger. From time to time it took crumbs from my hand. At the click of the shutter the startled bird flew away to join its companions that were careering over the sunlit, breeze-swept waters of the Gulf of Mexico.

"Wasn't it wonderful? Did you ever see a bird so tame? Do you suppose I got a good picture?"

The child was a picture herself, with the light in her eyes, the color in her cheeks and her wind-blown hair—a picture of outdoor spirits.



"The fast disappearing great American egret"

"How did you tame it, Uncle Archie? Did you put salt on its tail?"

"I didn't do anything. It's what you don't do to birds that makes them friendly. Every sign of distrust is evidence of cruelty or treachery."

"I haven't been cruel or treacherous."

"What about the feathers in your city hat?"

"These birds don't know about that, but they are shy as shy of me. You must have hypnotized this one."

"No more than you can do. We are likely to be for a month where birds are plenty but wild, yet you can make many of them tame as chickens."

"How shall I begin?"

"Begin by throwing away that gun in your cabin."

"Won't it do as well if I keep it locked in its case?"

"Yes, if you give me the key."

"Can't you trust me if I say I won't use it?"

"I can trust you, but I can do it more easily with the key in my pocket. Besides, I want you to stick to your camera and not even think of your gun."

"What else must I do?"

"Be friendly, gentle and patient."

"I'm friendly now; how gentle must I be, and how much patience must I have?"

"You must be gentler and quieter than you ever dreamed of being and you must have all the patience there is and then some."

"That's all too general; tell me what I must really do."

"You shall have your first lesson within an hour. Look at the coast line away ahead of us and tell me what you see."

"I see a lot of birds in the air. What are they?"

"Pelicans, mostly, and man-o'-war hawks. They are flying about a rookery near Sand Fly Pass."

"Will I get a camera shot at them?" and the girl fairly danced in her excitement.

"If that's your notion of being quiet, I don't think you will," I replied.

"But they are miles and miles away now. When I get near



The young water turkey is an ungainly youngster

them I'll be solemn as an owl and quiet as a graven image. Will the birds wait till the boat gets there?"

"They wouldn't wait for this power boat, which will stop half a mile this side of the rookery. Then you and I will get into the canoe and I will paddle you up to the bird key."

"Will the birds wait for us?"

"I am afraid not, for every boat that follows the coast passes near the rookery and every tourist with a gun fires at the flying birds until the poor creatures have learned that every report spells m-u-r-d-e-r to them."

"You can throw away the key of my gun case, for I never want to open it again," said the girl.



"We would persuade the great blue herons to alight on the harpoon pole, then lower it below the surface"

As we neared the bird key, with Marion sitting low in the bow of the canoe holding her camera at ready, I paddled so slowly that our progress was like that of a drifting log; yet we were two hundred yards from the island when the air began to fill with birds flying high, and even the mother birds began leaving their nests. Far above us the man-o'-war hawks circled, sweeping in wide curves as they rose and fell with almost motionless wings. The clumsy pelicans hovered near for a minute or two before heavily flying for the shore, where they perched on mangroves to watch us. Among the trees were lesser birds, which one by one took wing at our approach. There were many members of the heron family, one a snowy egret, and my wonder was that even a single specimen of the loveliest bird in the world had thus far escaped the



"The egret spread his wings in the most picturesque manner imaginable in the effort to balance himself"

rapacity of men and the vanity of women. It required no seer to predict for the beautiful creature an early death, for the extinction of its race is hanging in the balance. My companion took a camera shot at the big birds in the air and one at a swimming pelican, but the distance was so great that I had to warn her that a camera had not the range of a rifle.

"What is that pretty bird with the pink complexion and the funny round bill?" she whispered, "and isn't it near enough for a shot?"

But before I could answer the creature had taken wing.

"That was a roseate spoonbill, called pink curlew for short, and that very dark bird that you are looking at now is also called curlew, though it is really a white ibis, and that white bird near it is a little blue heron."

"Is a white bird always dark and a dark bird always a white something in this funny country? It sounds like Australia, where the crows are white and the swans black."

"Not always, but often. See the bunch of birds on that dead tree?"

"I see them, jet black bodies and snake-like necks. What is their name?"

"They've got names to burn: snake bird, darter, and the one by which they are commonly called, water turkey. They are as black as a crow and trim as a pretty girl—I don't mean you—and nothing ever looked less like a goose than one of them; but when one of her eggs is hatched, a creamy white, blubbery gosling comes out."

"Now we've frightened them and I can't get a picture. No,



"While the white ibis mother sat on a nearby branch awaiting her turn before the camera"



"The boy liked to bring together different species of birds and cultivate race hatred. He once promoted a debate between two blues and a water turkey, which would have been a credit to a political convention"

one is left; and see, he couldn't fly—he has fallen plunk into the water!"

"Not much did he fall—that was his way of diving. You watch the water for a few minutes and you will see his head."

"I've looked for an age and I don't—yes, I do. I see his little head and a bill like a bodkin and a neck that is as slim as my finger."

"You won't get a picture of him, but there are some young pelicans on that coral reef which may pose for you, if you won't even think aloud while I paddle you to them."

"I won't even wink till you tell me to press the button."

"I won't speak, but when I think the time has come I'll give the canoe a tiny shake."

"Suppose I don't notice the shake?"

"Why, child, you will be so keyed up with excitement that I am more afraid of your screaming and dropping the camera than of your not noticing."

"You needn't worry. I'm not going to get excited."

But she did, and when fifty yards from the pelicans whispered a request to be allowed to fire. At thirty yards she repeated the request so loudly that the pelicans heard and, becoming uneasy, began to walk away, whereupon I threatened that if she spoke again I would capsize the canoe and give her and her camera a salt water soaking. Thereafter we advanced silently and so slowly that the casual observer could not have told that we were moving. Soon the distance between us and the quarry was sixty feet, and the child was shaking with excitement but dared not speak. At fifty feet distance the game was getting uneasy and three pelicans looked inquiringly at one another as they fidgeted about. At forty feet I was nervous myself, the hands that held the paddles trembled, and I was glad that Marion couldn't see my face, while at about thirty feet the shaking of the canoe coincided with the click of the shutter and the hasty flight of the birds.

"Would you really have swamped the canoe as you threatened if I had spoken again? I came near doing it a hundred times!"

"Surest thing you know," I replied, quieting my conscience with the thought that she really



A young water turkey—the white child of a black mother

couldn't be very sure of anything.

"You are a mean thing, Uncle Archie, but I'm going to forgive you. Will I ever have such a chance again?"

"You are going to be taken to the head of a river that is alive with birds, where their nests can be counted by the thousand. They have been cruelly treated and will be frightened and fly from you at first, but in a week you'll have dozens of friends among them."

"Will they let me go near them and talk to them?"

"They will talk to you until you have learned their language and can talk back to them. They're not troubled with being tongue-tied."



"Often I was Marion's accomplice, and once posed in the canoe with a young colored curlew on my hand, for the birds were by this time quite tame"

"Of course I know you don't mean that, but it is a nice kind of nonsense and it warms your heart to the beautiful things. I mean to find out if I can understand anything at all of what they say."

"Do you remember that I showed you Gordon's Pass the other day?"

"Yes; it was just below Naples."

"Well, a man is camped near there who has spent all his life among the wild creatures of the forests and streams, and he has picked up the language of many of them. Of course he is shy, but the people of Naples know him and he lets some of them go into the woods with him, and he calls to him the birds they ask for. I have known him to call up one wild turkey gobbler and then another, talking quarrelsomely to each in turn, until when the birds spied one another a free fight followed."

"Can people like us, who don't live in the woods, ever get on real friendly terms with wild birds?"

"Anybody can get on good terms with them if in his heart he really wants to."

"Would it be the same if *she* wanted to from the bottom of *her* heart?"

"Within a few days you will be ashamed that you ever doubted it. One member of the Camp-Fire Club makes a point of getting acquainted with all the wild birds about his home. They come to him to be fed and some follow him into the house, while others perch on his fingers and take food from his hand."

"Can I do that at home in the Catskills?"

"Yes, if you'll have your cats killed. Cats and birds don't assimilate excepting to the disadvantage of the birds."

"How does your friend begin with his birds?"

"He never begins, he is always at it. He carries a box of worms in his pocket and pins on his coat. When he sees a bird on her nest or in a tree he gets a long, slim stick and pins a worm to the end of it. He approaches the bird very gently, holding the worm toward her. I have seen a wild bird take the worm on his first advance, and within an hour eat others freely from his hand."

"No bird would do that for me," said the girl, shaking her head.

"Not at first; they don't often for him, but if you will be very patient and gentle you will win out in the end. How earnestly will you play the game?"

"I'll carry worms in my mouth, like the boy in the story, if necessary."



"Two limpkins which had four other names to choose from"

Two days later the girl had her chance. We had carried the big boat to the head of the river that was fed from the pure water of the Everglades. For miles we had forced our way through masses of eel and manatee grass that choked the river from bank to bank. Seldom could the engine run five consecutive minutes, and our boy Harrison spent most of his time under water as he tore the twisted grass from propeller and shaft. Trees came to the water's edge and birds rose constantly from them, but always a hundred or more yards in advance of the boat. Marion stood near the bow with her camera, never getting a shot at a bird. She plaintively asked:

"However can I get near a

(*Continued on page* 140)

Laying the Foundation for a Successful Garden

THE FIRST FACTOR IN GAINING GARDEN RESULTS IS THE PROPER CONDITION OF THE SOIL—HOW TO FEED IT TO SUPPLY VARIOUS PLANT FOODS—AN EXPLANATION OF FERTILIZATION

BY F. F. ROCKWELL

THERE are many factors which go to the making of a successful garden, some of which we can control and some of which we cannot. One of the factors we can control in a very definite way is the supply of plant food in the soil. It is a factor we not only can control, but *must* look after if we are to expect good results in the garden. We can buy the best of seeds and plants; take the greatest care in setting them out and cultivating them; have a good season so far as temperature and rainfall are concerned (or even supply irrigation), and still, if the soil is lacking in plant food, or even one kind of plant food, the results will be disappointing.

To most people, "making the soil rich" is a very hazy and indefinite phrase. It suggests putting on "lots of manure" or "plenty of fertilizer;" but as to why they are put on, what they contain that makes it worth while to put them on, how plants use the various foods they contain—these are things which the amateur gardener, and often even the professional grower, has never had clearly brought to his attention. It has become so much the custom to look upon gardening as a recreation that we are in danger of forgetting that it is, in addition to that, an art, and to some extent a science, and that it will pay well in the end, even from the point of view of the amount of fun we can get out of it, to put some work on the technique, even though it may seem for the time being much less interesting to read about chemical fertilizers than about the wonderful new climbing roses, or how to grow the most lucious muskmelons and full-meated tomatoes.



One of the best ways of enriching soil is to turn under the clover crop growing on it, thus returning valuable elements that make for fertility

There are a number of so-called "elements" which go to make up the complete diet of growing plants, but the only ones with which we need concern ourselves are nitrogen, phosphoric acid and potash. Practically all soils which have been used for a number of years, and even new soils which never have been exhausted through producing crops, are found to be deficient in one or more of these three plant foods. Now, it is a peculiarity of plants that when *any* of these three elements becomes exhausted they will stop growth right there—they will not continue to go ahead and "fill up on somehing else." An abundance of potash and nitrogen will avail nothing if phosphoric acid is lacking, and *vice versa*. To produce a full crop, the biggest we can expect to grow of any particular thing, these three plant foods have to be contained in the soil in a certain proportion or ratio. And any one of them that falls below, or the one that falls farthest below, the minimum required for a full crop, we call the *limiting factor;* because, until the amount of plant food of that kind is increased, we cannot hope to get a full crop of whatever we may be growing. If any one element of the plant food is deficient in growing a crop it will set a limit beyond which we cannot go until the deficiency is made up. That is fact number one, which you should fix very firmly in mind. And there is another peculiarity of plants which you should understand very thoroughly, and that is that it makes no difference how much plant food you add to the soil, and how much nitrogen, phosphoric acid and potash there may be in the soil; unless it is in what is called available forms, the plants cannot make use of it. They will starve in the midst of plenty, just as you would in the grocery section of a department store if you had no way of opening the cases and cans of food. Plant food that is locked up, that is not soluble, will be of no use to the plants for the present. Natural causes, such as decomposition and the chemical changes that take place in the soil, may make them available later. But, as many garden crops mature in a few months, this will not answer your purpose; so remember that plants require not only plenty of plant food, in the right proportions, but plant food that is available.

Now, there are a number of things which directly affect the availability of the plant food in the soil. First, the chemical condition of the soil. It has been found that in soils which are "sour" plants cannot make full use of the plant food on hand. This is remedied by applying lime; and it has been found that in most soils a heavy application of lime—one to two tons—once in every three to five years, will be very beneficial. Ground limestone is usually the most convenient and the best form to use, but any good agricultural lime will do. You should be sure, however, that it is good, and if you are going to use any great amount it is

best to write to your agricultural experiment station and get its report on fertilizers, so that you can be sure of the analysis of the sort you expect to use. If sorrel grows very freely in your garden you will find that it needs lime. If you test it with litmus paper, a sheet of which can be bought at any drug store for a few pennies, and you get a "reaction" (the blue paper turning red) that will be a pretty sure indication that your soil needs liming. It is best to apply lime during the fall, so that it will have a chance to act during the winter and early spring, but the ground raw limestone can be applied immediately before planting.

Then there is the *mechanical* condition of the soil. As the plant food has to be acted upon by the soil-moisture before it becomes available to the plant, the more finely the soil is broken up and pulverized, the more accessible the particles of plant food become to the feeding root systems of the plant and the soil moisture required to convert the plant food into "soups" that the roots can drink up. Hence the importance of thorough preparation (plowing, harrowing, etc., to pulverize the soil thoroughly), both before planting and during growth. The result of cultivation in the latter case, also, is to conserve the moisture in the soil and to obtain a free admission of the air, both of which are necessary to convert unavailable into available plant food, and to enable the root systems to assimilate the feast that is spread for them.



Many plant roots cover a considerable area, but their food must be in such form that it is readily assimilated

As regards the physical condition of the soil, its substance should be such as to guarantee the germination of seeds. It must be dry and warm enough, and its structure such as to allow a supply of air and moisture. In other words, it must be spongy, as well as fertile. There are certain outside characteristics which indicate an inferior condition. A farmer may judge soil as fertile in which tulip trees and black oaks have grown, while he regards as unfavorable soil in which red oak, white pine and birch abound. While the locust grove gives soil fertility (for locusts are legumes), one would not select a tree-grown place for the site of a garden. Clover, alfalfa and other leguminous crops add the chemical nitrogen which is valuable to crops. If there is a scanty growth of weeds on a neglected tract of land, it indicates that the soil is lacking fertility. It will require fertilizer to restore it. Clay is unfavorable because its fine, close particles do not allow the passage of air or the easy entrance of roots. Sand is unfavorable, because it allows evaporation of water. A combination of these two particles—in other words, what is known as loam—makes the desirable soil.

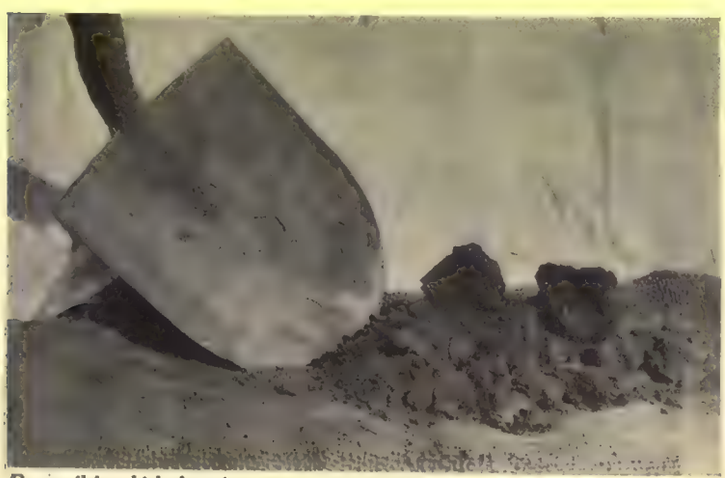
The same differences of chemical and mechanical condition are true as to manures and natural and chemical fertilizers, as well as of soil. It is its mechanical condition, for instance, which makes fine, short manure more "available" than rough, lumpy manure; or bone-flour more available than coarse bone. It is a difference in *chemical* condition which makes well rotted manure more available than green or fresh manure; or the nitrogen in nitrate of soda more available than that in tankage.

So the theory of manuring, put briefly, is this: To find out what, if anything, the soil lacks to produce a maximum crop, as far as plant-foods are concerned; and to make up these deficiencies by adding plant-food (in some of the various available forms) to the soil; and to see to it that the plant-food already in the soil is made available by keeping the soil sweet, and by thorough cultivation.

This is the whole thing in a nutshell—as far as the theory goes. The difficult part of the problem, however, is to find out how to put it into practical use most effectually.

From what has been said, we can realize that there are four essential things to keep in mind and try to supply to the garden which we hope to make a successful one—a soil made rich, first by being well prepared mechanically; second, made and kept

(*Continued on page* 146)



Poor soil in which there is too great a proportion of clay is apt to form hard lumps not easily penetrated by roots



The light, friable soil affords ready access to the plant roots in their constant search for nutriment

The Dorothy Quincy House

An Historic American Home and its Furnishings



An Authoritative Guide to Correct Colonial Decoration

By Mary Harrod Northend

Photographs by the Author

A PASSION for old furniture is apt to involve the amateur in a hopeless tangle if his enthusiasm carries him away. He often becomes oblivious of precedent, and the setting in which his treasures are placed is so unfit for their use and display that all their charm is lost. This is true with reproductions also. To-day so many manufacturers are busied with the making of really fine reproduction, either in exact duplication of the master cabinet makers' designs or most cleverly reproducing their spirit in shapes better fitted to present use, a guide to the proper combinations of design is necessary. What better model than a Colonial house furnished as it was in the early days of our country could be found? Almost an ideal example is the Dorothy Quincy house at Quincy, Massachusetts.

The family who occupied this old homestead for so long were able to acquire the best of furniture and equipment, and it may thus be considered a representative example of the Colonial period, especially since the Colonial Dames of Massachusetts—its present owners—have taken particular pains in restoring it in as exact a manner as possible.

The owner of Colonial furniture or the purchaser of reproductions can, therefore, get valuable assistance in deciding upon appropriate furnishings by a study of this house. He will find what freedom is allowed him in choice of designs, and will, furthermore, find his investigations made interesting by the numerous delightful bits of romance and history which cling to the objects of his scrutiny.

The original Quincy house was not a large one. It consisted only of a kitchen, living-room, and two chambers, but the work was done by experienced master builders, who luxuriated in the abundance of timber, using a superfluity of beams, each one being a foot or more in thickness. They stand to-day sound as iron.



Upon the old building erected in 1623 additions were made which, though increasing its size, do not spoil the pleasing atmosphere found in the old New England architecture

The house itself is almost as old as our country, for it was built by one William Coddington in 1636, on a portion of a grant of five hundred acres, and extending from the old Dorchester line at Squantum, a mile inland from Hough's Neck. The tract of land on which it was built showed level meadows and attractive setting. The unpretentious dwelling itself was situated as it is to-day, on the bank of Black Brook, formerly known as Coddington's Brook.

Coddington, for entertaining views too liberal for his age, was forced to leave his home and settle in Newport, where in 1639 he built a house similar to the one he left. The first of a long line of Quincys to occupy the house was Edmond, who numbered among the guests in the attractive homestead Sir Harry Vane and his contemporaries. He was a man of considerable means, and brought with him a large retinue of six servants. His daughter was the mother of Hannah Hull—she who married Judge Samuel Sewall, and received for her dowry her weight in the Pine Tree shillings of that day.

For many years the house as it originally stood was occupied by the Quincy family. Edmund, third Quincy, married Dorothy Flynt, the mother of Dr. Holmes' great-grandmother, concerning whom his poem was written. It was during his lifetime that the additional rooms were added to the house. The original building, whose lines are still discernible, has been overtopped by the newer edifice, which was designed to surpass everything that had ever been built in Braintree. These rooms consist of a dining-room, hallway, parlor and chamber. In 1706 Judge Quincy added a little ell for the accommodation of Dorothy's brother, Henry Flynt, for fifty-five years a famous tutor at Harvard.

The estate is surrounded by a high paling fence, through a gate



The warm tones of a brown Chinese wall paper are pleasing with the mahogany furniture, and the pictorial character of its pattern is prevented from becoming monotonous by the rectangular lines of the white woodwork which frames it

of which the summer house is visible where even the great John Hancock spent many a pleasant siesta. A central path leads direct to the entrance door. It is bordered on either side by the same box on which Dorothy Quincy dried her laces so many years ago. Beyond is the little old-fashioned flower garden, laid out much as it was in the days of long ago. The grounds are well shaded by elms, magnolia, mulberry trees, and rhododendrons; some of these have been there since the time of the original grant.

The entrance door swings back on its "H" strap hinges, giving into the hallway long and wide, in keeping with the dignity of the mansion. Notable paneled woodwork is shown in wainscot, relieved by an odd brown and white paper showing a hunting scene. This is most unique and unusual in design, resembling the French paper of the eighteenth century. A feature of this hallway is the hand-carved newel posts, suggesting the work of the ship carpenters of that day, who were famous for the rope carving of the ships' cabins. The balusters, mahogany topped, represent three entirely different carvings, the top and bottom being alike. The character and dignity of the hallway have been maintained by its simple furnishings.

The staircase, with wide box treads, leads to a broad landing, where stands a grandfather's clock. Turning to the left by a short flight of stairs one reaches the upper hall, which is prac-



The carving of Colonial craftsmen in the beautiful shell pattern graces the dining-room



In the remodeled house the great kitchen becomes an informal sitting-room or smoking-room. Here should be gathered the relics of Colonial husbandry for proper display, where they do not become a litter of debris

tically a replica of the lower one.

At the left of the hallway is a large, spacious room—perhaps the most notable one in the house—used originally as a parlor. A feature of this is the unique wall paper. It was imported from Paris in 1775 in honor of the approaching marriage of Dorothy Quincy and John Hancock. In all these years its color has never been dimmed. The design is carried out in double panels, showing birds of Paradise in brilliant colors resting in vases. It was probably chosen for the connotation of the many Cupids and Venuses in blue upon its surface, which was further decorated with pendent wreaths of draperies of red.

Unfortunately for history, the wedding never took place in this room.

One notices the usual chair rail wainscot and Colonial inside shutters, the latter an outgrowth of the heavy sort used to protect the family from Indians. These shutters show an attractive panel design and are divided by hinges into three sections. Often shutters of this kind were doubly secured by a wooden bar that, when closed, fell into sockets.

The furniture of this room was carefully selected and arranged. Though of different periods, there is a harmony of setting that is appropriate, especially when we consider that the work of the master cabinet makers blended a variety of motives from the simple designs of Queen Anne's time to the elaboration of the



Dorothy Quincy's wedding wall paper adorns the north parlor. It was of French manufacture and shows figures of Cupid and Venus in blue, with garlands and festoons in reds and blues. There is a happy suggestion in the furniture displayed here



Change of taste caused the old brick fireplace to be covered over with simple paneled woodwork, and the opening to be framed with tiles illustrating biblical history



The balusters and newel post were probably the work of an early carver of ship woodwork



Dorothy Quincy's bedroom contains a fine old mahogany field bed, which is appropriately covered with the flowered chintz popular at the end of the Eighteenth Century. The chairs are fitting for all bedrooms decorated in Colonial style

closing days of the eighteenth century. The sofa is a fine example of a Sheraton pattern, and it was this designer who also planned the chairs, which are some of the best examples of his artistry. Hepplewhite's skill is shown in those chairs of graceful motifs placed around the Dutch table of 1720. The work table at one side of the room is also of Sheraton make. The mirror is a rare Chippendale, showing a decoration of golden wheat of a design identical with that now found in the Dedham historical house. The spinnet carries us back to the days when the stately Colonial dames, with powdered hair and pannier dress, played love songs to the gallants of the day.

The fireplace is perhaps worthy of more attention than any other feature of the house. It is wonderfully paneled, and shows tiles bearing pictures from the Scriptures. Within the last few years this was opened and the original fireplace was found at the back. It was fifteen feet wide and shows a curious brick herring-bone pattern. In order to exhibit this fireplace, the outside one was hinged so that it could be easily opened.

This north parlor, as it was generally known, was prepared for the wedding that took place in Fairfield, Conn. The Revolution broke out just before it was planned, and Hancock was forced to flee to Lexington for safety. On April 18, 1775, he was joined by his aunt, Madam Hancock, and Dorothy. The hatred of the Tories toward the Quincy family forced her to flee to Fairfield. Here she took refuge in the house of Thadeus Burr, where Aaron Burr met and fell in love with her. Madam Hancock became anxious, and sent a letter to John Hancock apprising him of the situation. Correspondence shows that Hancock wrote immediately to his fiancée to keep his place in her favor, and, while reminding her of her promise to send him a woven-hair chain, revived her waning interest by presenting a box of silk stockings. The lady's mind evidently remained undecided, for at another urgent summons from his aunt the nervous suitor obtained a leave of absence and came to the Burr mansion to press his suit. Whether it was the stockings or the weight of his pleadings is not determined, but at any rate Dorothy became his wife on August 28th.

This room that was to have been the scene of the ceremony has many interesting mementos in the closets at either side of the fireplace. Here has been placed a parasol that once was used by Mrs. Hancock; a little shoe that pathetically told of the little child that died, together with the baptismal shirt and cap that had been worn by Josiah Quincy third. The dress worn by Abigail Adams when presented at the Court of St. James, and the portrait showing the same gown are both found in this room.



In the Coddington room there is another pleasing design of the old field bed. The chairs here are samples of some eighteenth century manufacture that are to-day reproduced in admirable consistency

Tutor Flynt's study, which is a typical bachelor's room, leads off the parlor. It is situated in the ell, and is entered from an outside door. This apartment overlooks the brook, and is the quietest room in the house. To-day we find the chair in which Hancock sat when he was inaugurated Governor of Massachusetts. A table that belonged to President John Quincy Adams is also found here. The open fireplace gives it an air of comfort. From this room a steep flight of stairs leads to Tutor Flynt's chamber. Here is found a fine example of a

block front chest of drawers, and some rush-bottomed chairs. A peculiarity of this room is a closet bed, probably suggested by some old Dutch bedroom. When the doors are closed the room alters its appearance of a sleeping apartment and becomes a living-room. Probably the arrangement was made by one of the family to counteract the cold drafts of the unheated chamber.



A heavy four poster, with chintz drapery, once the property of Lafayette, is placed in the guestroom along with the comfortable shield-back Windsor chairs so serviceable even for modern conditions

Opposite the drawing-room or parlor is the dining-room, a large, spacious, well-lighted room. The old-fashioned wall paper here is most unusual. It is a Chinese paper, portraying Chinese villas. The present tendency to revive the Chinese Chippendale designs has led to the reproduction of just such paper, and a very good representation of this design may be found in the decorators' shops. The original is brown and white in coloring. It matches the scheme of the furnishings. At one corner of this room is a wonderful buffet, finished in a rare example of the old-time shell pattern. It represents seventeenth century work. Many of the pieces of china here are historic, including dinner plates which were used by John Hancock; a teapot wherein was brewed the tea which Washington drank when visiting this house.

The large, old-fashioned fireplace, dating back to 1750, shows an interesting fire back, and is surrounded by blue and white tile. These are originals, but their like appear in reproduction that can be found in the market to-day.

A wide, plain wainscot relieves the wall paper, and with the heavy wooden shutters gives the requisite amount of woodwork to frame a paper of this sort. Every detail of this room is consistent, giving a harmonious whole.



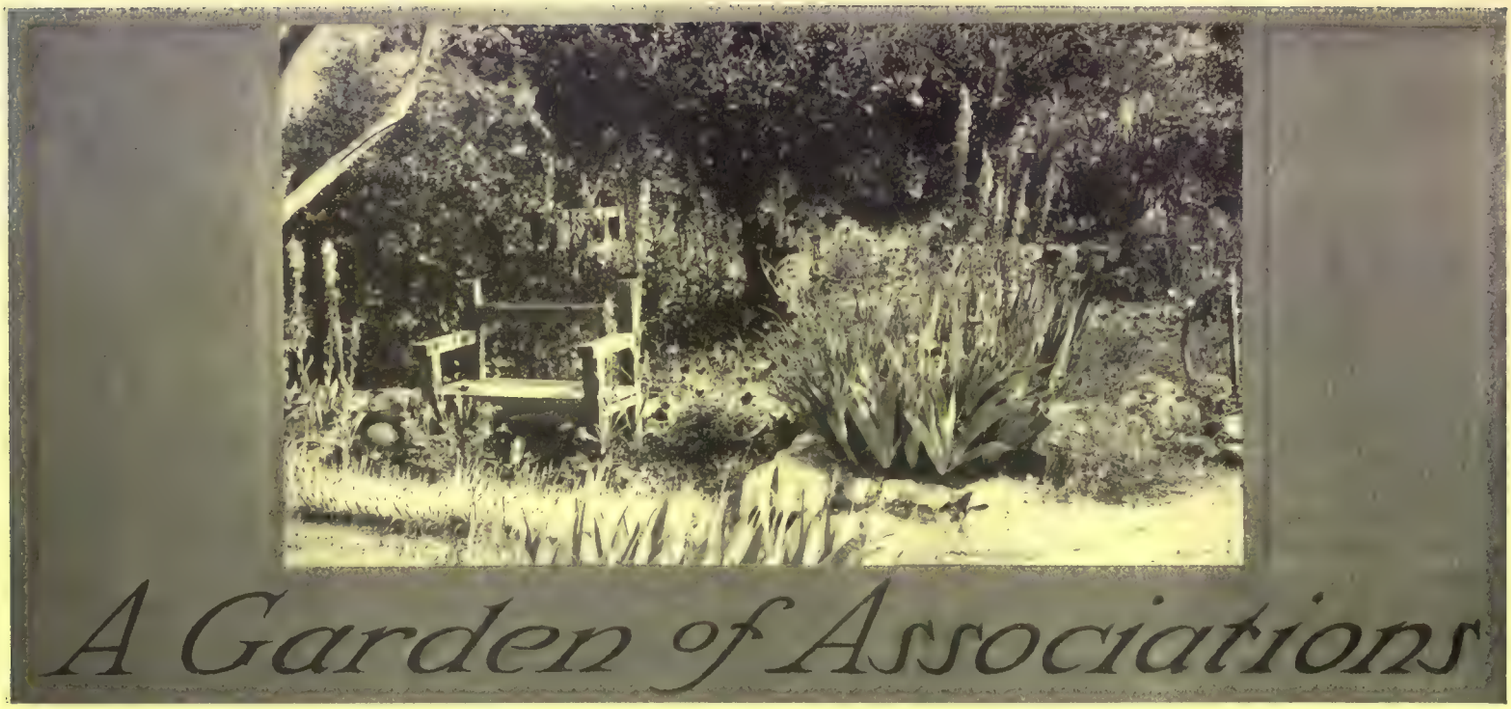
The tutor's bedroom had a bed built into a closet, the doors of which concealed it entirely from view and permitted the room to be used as a study or sitting-room

The rush-bottom chairs are evidently of the Chippendale period. Several have the solid splat, while others have open-work backs, and the arm chairs are of a particularly interesting ladder-back design. All, however, are consistently used in combination. The table is of later workmanship, and shows Empire motives, but it is a particularly interesting form. In reality, it consists of three separate tables. The two end pieces are of the drop-leaf order, with four fixed legs and one movable one; the middle section has two drop leaves. Because of this structure the tables are easily taken apart and disposed along the wall—a point that recommends its use where a dining-room is to occupy other purposes than those of pertaining to the service of meals.

Back of the dining-room, and one step lower, is the old kitchen, a part of the original house that was built by Coddington. It has been kept intact, showing the rough-hewn beams just as they came from the builders' hands. Light comes from small-paned windows made from glass manufactured in the first glass factory in America. It was about the time of its building that a guild of Hollanders settled in Quincy, Mass., then Braintree, and erected the first glass factory in the new country.

A feature of the kitchen is the enormous fireplace guarded by a wire mesh curtain which did not exclude the heat and prevented

(*Continued on page* 134)



A Garden of Associations

PLANTING THAT HAS A DEEPER SIGNIFICANCE THAN COLOR OR FORM—THE EXTRA PLEASURE OF A GARDEN OF PERSONALITY WHERE EACH PLANT HAS A HISTORIC OR COMMEMORATIVE VALUE

BY CHARLES FRANCIS SAUNDERS

Author of "Under the Sky in California," Etc.

Photographs by the Author

MY friend Jenkins, whom I used to know in Philadelphia as the proprietor of a small brokerage business, moved to California a few years ago, and I met him recently on the street in Los Angeles. He had been a nervous, hurried, anæmic sort of man back East, but now he had the leisurely, easy-going manner of the Californian, and wore a smile and a coat of tan.

"Come out and see us," he said; "I'm done with shearing lambs and am living the Arcadian life in a bungalow, with a bit of garden that my friends are good enough to tell me is sufficiently out of the ordinary to be interesting to them."

So one day I took an electric car to the address he gave me in one of the pleasant little foothill towns that cluster about the Southern California metropolis, and soon we were strolling together about his garden.



The classic acanthus, whose leaves suggested the Corinthian capital

"I call it my garden of associations," he explained. "It seems to me that a garden has a mission beyond just being pretty to look at—the plants in it, or, at least, a good many of them, should stand for something—have a history. By that I mean either that the individual plant should have some story to tell, possess some association that gives it more than ordinary interest; or that it should be of a race that has had a part in the world's history. That little tree by the sidewalk, with the leathery pinnate leaves, is a case in point. It is a carob tree. You remember the brown, flat pods called St. John's bread, which we used to see on fruiterers' stalls back East in our boyhood days, along with figs and dates and oranges? This is the tree that bears them. It is indigenous to Syria and Egypt, but feels quite at home in California,



The foliage of hemp is one of the most beautiful in the world

too. Its pods, from the dawn of time, have been an important article of fodder in Palestine, and they were unquestionably "the husks that the swine did eat," to which the Prodigal Son of the Scripture parable was reduced in his extremity. Then here I have a young Italian stone pine, grown from a seed sent me by a friend from the famous grove at Ravenna. Its ancestors gave shade to Dante in his walks. It has not got its flat-topped crown yet, but it will—that takes time. This other young conifer is one of our native Southwesterners—a nut pine or piñon, especially connected with the vanishing wild life of our country. It has seeds about as big as peas, capital to eat. They were a famous item of food with the desert Indians, and the harvesting of them was, until quite recently, a picturesque feature of aboriginal life. And here is another Indian plant—this shrub Cowania, or Mexican cliff rose. It bears a charming, creamy little single rose of a flower, but I cherish it particularly for personal reasons; for it was grown from seed gathered on the rim of the Grand Cañon of the Colorado in Arizona, and so is linked with the memory of a certain noteworthy outing. It is interesting, too, in a more general way, because of the fact that Navajo mothers from time immemorial have employed the shredded bark of the plant for padding their baby cradles."



A cactus bed at the right contains a plant from a hedge set out by the Franciscan Fathers a century or more ago, and other specimens gathered from the desert



A white oleander from San Juan Capistrano Mission occupies the right center, while myrtle grows at the foot of the Italian cypress

Here Jenkins stooped to pinch off a leaf from a shiny little bush at his feet.

"Smell that," said he. "That's true myrtle, sacred to love since the babyhood of the race, and still twined into wreaths to crown Bavarian brides. And here is Shakespeare's rosemary, herb of remembrance, good in old wives' medicine to make the old young again. It blooms all winter here, and our California year never grows old. This clump of rue is from a plant that grew in the garden of the old Spanish rancho Camulos, the real home of Ramona. Over yonder, that tall, feathery plant with the flat umbels of yellow flowers, is fennel. Romulus and Remus no doubt knew it well. In ancient days it had a great vogue as a strength builder; gladiators mixed it with their food, and its leaves were woven into crowns for the victors in Roman games. Here is the classic acanthus. You know the story of how its decorative leaves thousands of years ago suggested the design of the Corinthian capital. And here are some stalks of hemp, one of the most beautiful plants in the world as to foliage, and with a history that makes it an aristocrat. Its fiber supplied cordage for the argosies of King Hiram of Tyre and Cleopatra's barges, and its narcotic juice was the basis of hashish, with which the Old Man of the Mountain held dominion over the wills of his assassin followers."

We were now beside a young oleander starred with white bloom.

"I'm rather proud of this specimen," Jenkins observed, "as I am inclined to think it is the only one in its class. I raised it from a slip taken by permission from an old tree in the Padres' garden of San Juan Capistrano Mission, and, since then, the parent, which was no doubt of the Franciscan Fathers' planting, has perished. It is thus a link, especially rare, with a romantic past. These old missions, you know, are California's most famous antiquities, and, if I had room enough, I'd go in for a little mission garden with plants slipped from all the missions that are left. As it is, I have made a start. That tamarisk by the fence is a slip from an old tree that stands in front of the Mission San Antonio de Padua, and the big cactus yonder is from the remnant of a hedge planted by the Padres around another of the missions; and the vines covering the arbor here are mission grapes of the stock planted by the Franciscans at all their California establishments."

It would be tedious to continue the catalogue; but enough has been said to illustrate the plan of this little garden, which impressed me as not only replete with beauty, but imbued with sound sentiment and associations worth preserving. To be sure, its location being in Southern California, it is favored with a soil and a climate exceptionally hospitable to introduced plants from whatever part of the globe. Nevertheless, the principle, with appropriate changes, is readily applicable to any part of our country. It is, of course, not the sort of garden that can be made all at once;

but the fact that such a gathering of plants is a matter of discriminative selection, and is coincident more or less with the happenings of one's own life and the growth of one's own interests, makes it all the more a garden worth the making. To preserve it from the charge of freakishness, regard should, of course, be had to beauty as well as to historic import or personal association; and, as additions are made from time to time and thinning out becomes needful, the elimination should be of the more conventional. So will the garden become increasingly as a library of the flower of literature, fragrant with the old romance of life and rich in the immortal spirit of an uncommercial past.



Fennel, artichokes and carrot fill a conglomerate but pleasing corner

Of course, if one does not care to make this idea the general feature of the garden a certain portion of the space may be set aside for it—a sort of Poets' Corner, given over exclusively to plants distinguished in song and story. Many plants have a really extensive literature. Outside of general literature, works like Britten and Holland's "Dictionary of Plant Names," Prior's "Popular Names of British Plants," DeCandolle's "Origin of Cultivated Plants," and Thiselton-Dyer's "The Folk Lore of Plants"—to mention a few among many—are excellent introductions to the recorded history of numerous herbs and shrubs which are either already garden subjects or might well become such.

In addition to those flowers that are memorable for their association with places, there are many which, if picked up during one's vacation ramblings, bring back pleasant memories of those trips. Many of the desert flowers are odd, as well as beautiful, showing forth in this pure wilderness of the desert unlooked-for resemblances to many things of man's complex civilization. There is the salaria, for instance, with velvety blue-and-white-hooded coralla emerging from a loose, papery calyx and looking in outline astonishingly like a bonneted Quaker lady of the olden time. And there is *Calyptridium monandrum* (we would write its English name if it had one), a Wild West cousin of the familiar "pusley." It does not drop its petals, but when the seed vessel is set, lo and behold! the withered coralla appears like a limp liberty cap swinging at the tip of the slender red pod. There is, too, a remarkable milkweed with blossoms of imperial purple so smothered in white wool that the individual flowers suggest rubies lying in a bed of jeweler's cotton. And there is *Nama demissum,* which grows in a circle flat upon the sand, and resembles a floral wheel with green spokes and a Tyrian purple tire. The list might be continued indefinitely.



A general view of a garden of associations, where each plant, by a process of time and judicious selection, has come to have a deeper value than its mere color, perfume or form

The struggle for moisture in the desert leads the roots of many plants straight downward. Those of the spiny dalea, a shrub or little tree whose intricacy of slender branchlets becomes clothed in spring with a royal garment of a myriad purple blossoms, are said sometimes to descend twenty feet or more in quest of water. An old desert dweller once told me that, desiring one of these trees as an ornament near his house, he set an Indian to dig it up, cautioning him on no account to break the tap root. As he rode to and fro on various errands he noticed the Indian patiently digging deeper and deeper, his body gradually getting lower and lower in the big hole, until a couple of days afterward the black head of the child of the desert was just visible at the level of the ground. Thinking the tree had earned a right to its station, he told the red man to let it stand.

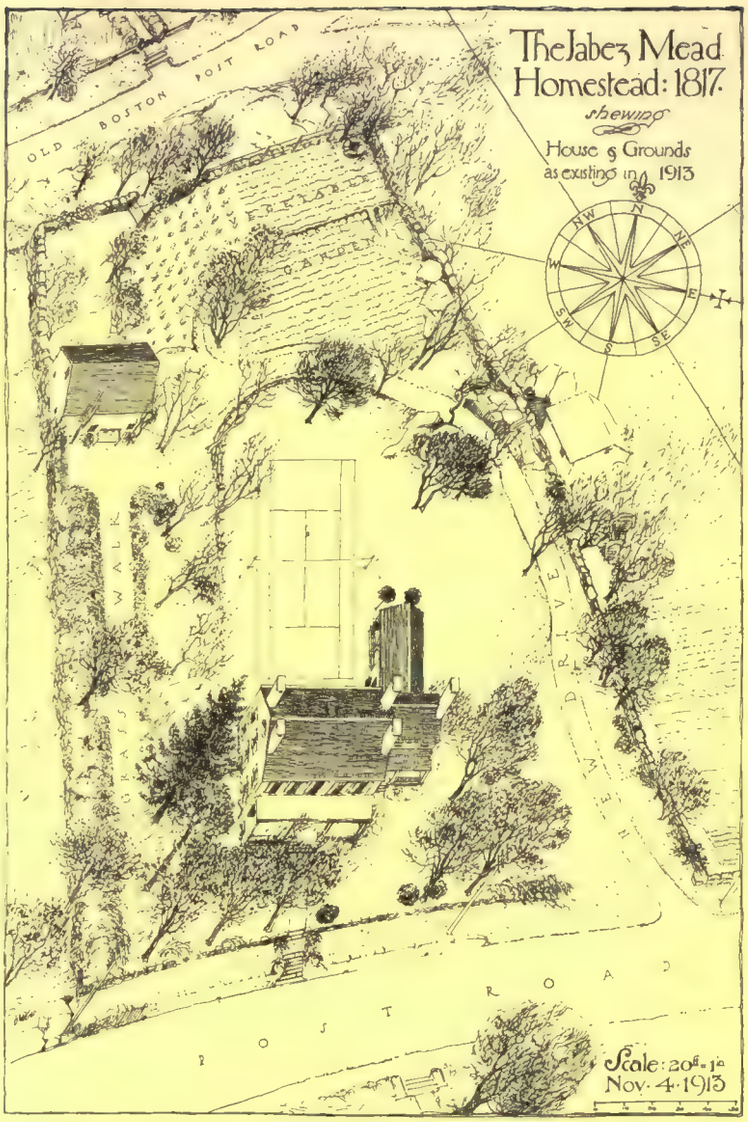
The cactuses, on the other hand, those best known of desert plants, have but a scanty root system, and one can without much difficulty topple some sorts over with his foot. Their aqueous reservoirs being within their succulent joints and stems above ground, they do not need long roots to fetch and carry for them. There is a great variety of the cactus blooms, and some that are not particularly beautiful in themselves possess a charm in their arrangement. Of these latter, the greenish-yellow flowers of the strange, cylindrical bisnagas, or barrel cactus, are examples. They form a circle upon the spiny top of the keg-like plant—a chaplet set upon those repellent brows by the hand of a Love that must indeed be divine. The spines of the cactuses are a fascinating study. There is much variety in them, and often great beauty. Their placing upon the surface of the plants is no haphazard arrangement, as might appear to the unobserving, but is in accord with an orderly plan. Those of the bisnaga consist of regularly disposed bundles, the central spines of each of which are very prominent, four in number and transversely ridged, one of the four being usually curved in the shape of a great fishhook, and beautifully colored.

Making a New Home from an Old House

THE CONVERSION OF A SOUTHERN NEW ENGLAND FARMHOUSE TO MEET MODERN REQUIREMENTS, WITHOUT DESTROYING ITS CHARACTER—PART I HOW THE RECREATION SIDE OF THE GROUNDS WAS DEVELOPED

FOR three months D. and I had spent all the time we could in search of a country house. On Saturdays and Sundays we ransacked the towns within commuting distance and on week-days while I was busy at my office, D. made lists from newspapers or interviewed real estate brokers. Our requirements puzzled them, for it was difficult to explain just what we wanted. D. could spread out or concentrate the household, so we had little interest in the exact number of rooms; but the number of rooms being the average broker's guide, he was soon quite lost. We had a fairly definite conception of what we wanted and what we did not want. A typical small suburban cottage, though fitting our pocketbook, was out of the question, for what furniture we had was heavy, old mahogany, built when space was not a luxury; therefore we needed large rooms; preferably few in number, without queer angles, cozy-corners, yellow oak ornamentation and the like. Small houses with a very few large rooms apparently do not exist; large modern houses were too expensive. Privacy of such grounds as there should be, we insisted on, for we had the English point of view that the playground was even more sacred than the house, that work or play out-of-doors should not be a spectacle for the neighbors. These are rather strict requirements, and I think I am right in saying that they are unusual ones. Perhaps we should have been more patient with the brokers.

Amusing, to look back over those week-ends! D. and I took town after town on two railroads (my office was near their terminal) and visited the agents that clustered about the stations, or chartered the rickety hacks on exploring expeditions. At first we did not know quite what to ask to see, and we found nothing; finally it became evident that only the old farmhouses could meet our conditions. In definitely enquiring for them we were more successful and we visited many. Some were tumble-down, others altered until they had lost all character; one so badly put together that the hipped roof was spreading.



A general plan of the house and grounds; though near the highway the arrangement makes for real privacy



Two terraces, faced with stone, break the slope of the ground between the entrance porch and the road, giving pleasantly harmonious lines to a situation which otherwise might have been monotonous

Our final discovery was a hundred-years-old house. We were returning by tramway at the end of an unsuccessful day when we first saw it, standing high above the road against the cold February twilight sky, gray gabled, close-shuttered, silent; bare maple trees were motionless about it.

It was larger than we really needed, a great square house, with a lower extension at one end, evidently a kitchen wing. An agent's sign suggested exploration. We alighted; eagerly we mounted the terrace steps and walked around the house over the

thin snow. Behind, the irregular ground sloped down to what we later learned to be the ancient post-coach highway to Boston. As we stood behind the house, we overlooked the neighbors' roofs, for the house was on the crown of a hill. Across a valley the rolling greenness of a links, and beyond, the hills.

The property itself was undeveloped; the soil thin with occasional outcroppings of rock. There were many maple, locust and mulberry trees, a great lilac hedge along the western boundary, and a few scattered shrubs and bushes, but no attempt at paths or flowers nor any way of driving from either road to a barn behind the house at the hill-edge. The place had possibilities, however; that was evident. Its altitude gave it the privacy and isolation we desired. A little clearing up was needed; rubbish and ashes had been dumped in one place; an undesirable out-house was unpleasantly evident; a wing with out-kitchen and wood-shed unworthily commanded the great view to the north.



At the rear of the house the ground slopes away, carrying out in an attractive way the lines of downward gradation from the house roof to the reconstructed woodshed

We peered through the sidelights of the rear door. Dimly we made out the stairway arch, the curved mahogany handrail and banisters and the leaded fan-light of the entrance door beyond. Nothing else could be seen for it was nearly night. We pried here and there until, cold and hungry, the thought of dinner tempted us away.

We stayed over near by and went through the house next morning with a man who had the keys. We were then confident we had found what we wanted and ended by offering to rent with the privilege of buying. Negotiations followed; the owner refused, as for certain family reasons he must get rid of it at once; but if we would buy it outright we might have it for what seems to have been far less than its value. We were both fascinated by the place. It was just what we wanted, just the sort of place we had in mind.

"Buy it, certainly," said D.

"You old fraud," said I, "you agreed to rent; now you want to buy? It's idiotic! I've never commuted except for a month or two in summer, perhaps; this means a fifty minute ride!"

"Well, if it is too much we can sell it again!"

"Yes, I suppose we can; but selling is so slow. I'll make a bargain with you, though. I'll offer him a thousand less, if, in case he refuses, you'll agree to rent something somewhere else and give up any idea of buying for the present."

D. agreed; a letter was sent. She spent an agitated twenty-four hours, I remember, for it seemed to her a wonderful opportunity; then the answer came and we were the prospective owners of a house!

The transfer of title was arranged; we inspected it again; our enthusiasm grew. Eagerly we planned what we should do to improve it, to fit it to our own personalities. The grounds behind the house should be developed and made the center of our outdoor life.



The converted woodshed occupies the best position on the grounds, and commands extensive views. In its remodeled state it is an ideal outdoor summer living-room

"Let's have the up-and-down-hill graded flat and that rock blasted away; we can have a tennis court here!" said I.

"Let's move the barn out of the 'view' instead," D. answered. "That wouldn't be so terribly expensive, would it? And I'd rather have a porch here than a tennis court."

"But a porch would be hideous there. If you want a porch, why not put it at the end of the house over the cellar door, near the lilac hedge?"

"But then it would look right into our next door neighbors'!"—which I had to acknowledge. Abnormal porches were considered and discarded, one after another; nothing seemed to arrange and we reached no conclusion. Later we were to learn the part the barn could play in the general

composition, and D. was to show me a clever solution of the porch problem; in fact she started on the porch herself without consulting me, or giving any chance for preliminary objections! One afternoon I found her hard at work with a mattock ripping out the side boards of the wood-shed at the end of the north wing.

"What the dickens are you doing!" I shouted.

"Get a pick and help me and don't stand there asking foolish questions. We are about, my dear, to change a wood-shed into a porch!"

It was a very ingenious scheme, I think, and I was soon an enthusiastic convert. The shed was quite useless for storing coal and wood, as we did not intend to have carts driving up there. It occupied the best situation in the grounds, for it stood in the center of the lawn with outlook northwest across Strickland Plains and up the valley, and to the east, down the hill to the Post Road. The lines of the old house were to be unchanged; the roof and framing to remain as they were.



The old woodshed was a wing of the extension, and when its sides were removed and suitable lattice and vines arranged, it made an excellent porch

When the boards were off we nailed lattice against the hand-hewn timbers; they were to answer until proper columns replaced them. Now there is such a mass of clematis, Virginia creepers and trumpet vines that a change seems of doubtful advantage. The wood floor and sleepers were torn up and the space filled with stones and ashes well soaked with a hose and allowed to settle, then thoroughly pounded down and concreted. It was not cut into blocks, for we did not want it to suggest a sidewalk, but to prevent expansion cracks we reinforced it with wire netting, so the entire floor might expand and contract as a unit. Small stones were sprinkled over the hard surface of the ashes and the area covered with three widths of galvanized chicken-wire, each width lapping the next six inches or so. Then the concrete was dumped on and, the wire mesh being held up by the stones, it was thoroughly imbedded. A finishing coat of cement was put on the same day and left rather rough on top—"float finish," as it is called. There is no sign of a crack so far. We might have mixed a waterproofing powder with the cement; perhaps it would have been wise since a float finish cement is as absorptive as blotting-paper.



The old driveway that led to the barn has been converted into a delightful grass walk, flanked on one side by a great lilac hedge, and on the other by a row of perennials

Our converted wood-shed has the qualities to me essential in a porch: not an entrance way, for that is too public; nor a veranda along the house-front, for that darkens the lower rooms; but a room itself, an out-of-doors room, open on three sides except for vines and shrubbery. If it be near the kitchen as ours is, so much the better; we sometimes dine and breakfast there in summer.

This evolution of a porch occurred a year or two after we had been in possession. First came a general clearing up, and the tennis court. The offending out-house was sold and carted away. Half a dozen men with horse, plow, cart and scraper stripped the top-soil behind the house and filled the hollows with all the rubbish they could find. Our ash-pile disappeared; the neighbors' ash-piles too. I marched about soliciting and the cart followed collecting.

The stones we unearthed and the pieces of rock we blasted were built into a terrace wall at the far end; the fill was roughly graded, the top-soil spread over, leveled and thoroughly seeded, and I fatuously thought we had created a turf tennis court. Well, this was several years ago; now I know that a turf tennis court is a luxury of the most affluent of individuals or country-clubs. Cutting, wetting, rolling, week after week, seems the price. While our enthusiasm lasted it was not as bad a court as might be. A stop net was hung to the trees around the further end; the house formed the other stop. Orientation was correct and length sufficient; but no one living nearby played and the labor of keeping it in good

condition proved so great for the satisfaction of an occasional week-end that I gave it up. The turf has been steadily improving, however, and some day I shall put it in condition again.

Another operation carried on with the tennis court, and which helped supply the needed top-soil, was the driveway to the barn. With the lowering of the Post Road some years before we took the house, the barn had been left high and dry; there was no way to reach it by carriage or motor, for terraced walls skirt the property on all four sides except in one place at the southeast corner. Here a cart could enter by being dragged up a steep slope, and this was the natural place to begin our driveway. The slope was reduced by cutting four feet from the sharp hill-crest, where tests with an iron bar driven into the ground showed that the rock would allow it without much blasting. The drive was first drawn on the short turf with lines of whitewash as one would mark out a tennis court; then the curves were studied and, where awkward, were washed out with broom and water and re-drawn until from all directions they seemed natural and graceful.



Against the barn is a garden seat constructed of three discarded doors. Triangular holes sawed in the back suggest the Roman baluster motive; the seat is sloped slightly backward to shed the rain water

Next day the top-soil was dug away between the lines and carted to tennis court and garden; then stones and ashes put in place of it. The digging was not completed the first year, for the local supply of stones and ashes gave out; but as soon as more collected, we dug again from the roadbed and threw the ashes in. Of course, the area had first been covered with an inch or so of ashes to make it uniform in appearance. All the good soil has now been dug away and replaced; we intend soon to finish it with either gravel or crushed trap.



Evidently the old house had been one of the trim, dignified New England dwellings; the porch, a late acquirement, grafted on in old age

Half-way up the drive, sheltered by the rocks, is the children's sand-pile, where tent or wigwam alternates with railroad tracks. Beyond is the garden, rather unkempt and not developed as it should be. We have terraced its steep slope and are gradually getting out the stones and increasing its fertility. The plot drains naturally and there is a well in the corner, but we have not yet installed the pump and series of V-shaped wooden troughs I have in mind for an artificial irrigation. Of course, the town water might be used, but would be rather expensive in such quantities. Under the present conditions, strawberries have produced enormously without the slightest care being given them; corn and potatoes have been fairly successful; but the past few seasons have been too dry for other vegetables, and no one has had time to attend to them or even pick the peas or beans. It is gradually dawning on me that a tennis court is not the only plaything that needs constant attention! I must confess each year my gardening zeal diminishes. I suppose a man who is busy with city work should limit himself to one hobby, whether gardening, sailing, tennis or what not. If he try to include several, he seems to fail in enjoying any of them. It is no light work to keep a boat in condition; tennis is not a pleasure unless the court is constantly cut, raked, weeded, watered, rolled; a vegetable garden is depressing if the plants are struggling against drought and cut-worms and choked with weeds! So the man who would have all these things finds himself rushing violently from one to another, all his effort spent in preparing for play without time for playing, with the sickening consciousness that each thing he has attempted is half done. The Back-to-Nature books avoid this phase; methinks I must hereafter enjoy my Nature vicariously, in the person of a stout Italian.

The Italians as one finds them here are amusing fellows. They seem to have a natural instinct for gardening, but in mechanical things they lack ordinary sense. One never begins cutting the grass without searching for a screw-driver and monkey-wrench, and if I have not managed to hide everything of the sort or if D. is not obdurate, he starts to "feex" my carefully adjusted

(*Continued on page* 126)

THE GARDEN CLUB



EDITOR'S NOTE: *The garden's contribution to the individual's welfare is acknowledged. Health, happiness, the joy of creating something beautiful—these are but a few of many gifts with which the garden rewards its devotees. But the community is also a gainer where there is a concerted effort in horticulture. The garden club is a great factor in neighborhood betterment. Here is a true story of the work of a certain such club and its accomplishments. What the members actually did should be a stimulation to all who love gardens and a guide to the ways and means of improving our towns and villages.*

WELL! The thing that we talked about all summer has at last materialized.

"Ladies," said the Chair, sweetly, in an opulent, presiding-air of most suitable dignity and a frock of appropriate Aprilly green, from the far side of her library table; "ladies—the question is on the adoption of the by-laws as amended. All in favor please say 'aye!'"

Everybody sang out "aye" at the top of her soprano or alto or mezzanine, to show her enthusiasm—and the Garden Club in that instant finally became. The Cottage Garden Club some had wanted to call it, but it got itself down as just the Garden Club, in the end.

Mrs. Addicks, being in the chair, was elected president at once, of course—the president can serve but one year, anyway—and Helen Brinkerly got vice-president, Mrs. Joe Wright recording secretary, Mrs. Denton corresponding secretary, and Mrs. Curtis Salton-Appleby will receive and disburse the moneys, in the office of honorable treasurer. Not being the first president was something of a blow in this quarter, I fancy; but the Salton-Appleby poise is, of course, equal to all ocasions—and what *I* may think and *you* may believe, we both instantly know is not so, when we meet with it!

We certainly did a lot in three-quarters of an hour; but I think parliamentary practice is *most* offensive! Why, you can't get a word in edgewise, and I tried *seven times* to say what I thought about meeting sometimes in the evening so the men could come and join; but it never took, nor even showed a sign of doing so. At last, when I had given up, and Mrs. Gilfeather had finished her speech, and Mrs. Thomas had made another, and they had had another eyes-nose-question performance, Mrs. Addicks suddenly beamed over at me and said: "If the secretary will now read Section 1, Article IV of the By-Laws, Mrs. (calling me by name) will see that her suggestion has been anticipated, and that the Club is committed to four evening meetings during the year—which we hope the men will attend. And, of course we expect to have them as members; for the third article of the Constitution, which deals with membership, says that 'any *adult* interested in gardening and living in this town or its vicinity is eligible to membership.'"

I got perfectly scarlet, I know I did—and I was furious! But, of course I beamed, too, as long as she did. *Such* rudeness, though—when she had heard me all the time! Yet she had just kept looking straight at Mrs. Gilfeather, who was standing up, talking something about the programs, and never winked an eyelash in my direction! That was why I was so anxious to get it in, of course, because it had to do with programs—if it had to do with anything. But you would have thought I was a wooden image. And then, to turn to me at last, like *that!* Oh, I think it was dreadful, and I shall not forget it in a hurry, you may be sure.

After such a rebuke, I made sure to become perfectly familiar with the Constitution and By-Laws, so with particular care I copied them from the secretary's minutes, and give them just as they appeared there.

CONSTITUTION

Name: This Club shall be called the Home Garden Club.

Objects: To stimulate interest and co-operative gardening; to put its members in touch with the development of new ideas and improvements in garden practice; and to study in all its aspects, the fine art of gardening.

Membership: Any adult interested in gardening and living in this town or its vicinity is eligible to membership.

Officers: The officers shall be a president, vice-president, recording secretary, corresponding secretary and treasurer.

Executive Board: The officers of the Club and six members from the Club at large shall constitute a Board of Directors for the transaction of business.

Annual Meeting: The February meeting shall be for the election of officers, the reading of annual reports, the payment of dues and the awarding of the final prizes on the sum total of the year's work.

Amendment: This Constitution may be amended by a two-thirds vote at the annual meeting, provided notice of such amend-

ment shall have been given in writing two weeks previous, and been appended to the notice of that meeting.

BY-LAWS

Duties of Officers: The duties of each officer shall be those usual to that office. The Executive Committee shall appoint standing committees, and shall fill all vacancies which may occur in the offices of the Club or its own committee, these appointees to serve until the next election.

Membership: Candidates for membership shall sign the application blank furnished by the Club, and this shall be endorsed by two members and presented to the Membership Committee.

Dues: The dues shall be $2 per year, payable at the annual meeting in February. Members whose dues for the previous year remain unpaid at the annual meeting may be dropped from the roll at the discretion of the Executive Committee. Any member, upon the payment of $25, is entitled to become a life member of the Club without further dues.

Meetings: The regular meetings of the Club shall be held on the second Mondays of each month throughout the year. There shall be eight afternoon meetings at 2.30 o'clock, and four evening meetings at 8.15 o'clock. Special meetings shall be held according to written notice to members from the Executive Committee or the President.

Elections: Election of officers shall be by ballot. No person shall be eligible to the office of President a second time without a year having elapsed since relinquishing this office.

Committees: A Program Committee of five members, which shall present a general program for the meetings of the ensuing year at the annual meeting, shall arrange where Club meetings are to be held, and shall decide the subjects to be discussed.

A Membership Committee consisting of two members of the Executive Board, named by the Board.

An Auditing Committee of three shall examine the accounts of the treasurer and report at the annual meeting.

A Nominating Committee consisting of three members shall be appointed by the Executive Committee at the December meeting, and shall present to the Club at its annual meeting a list of candidates for the offices of the Club, two names for each office.

Quorum: Four members of the Executive Committee, beside the President or presiding officer, shall constitute a quorum.

We came to Miss Lucy Harwood's talk, however, at just nineteen minutes past three, in spite of their old rigmarole—which was only four minutes behind the schedule, I heard Mrs. Addicks tell Mrs. Salton-Appleby; and I did enjoy that. In the first place, Miss Lucy is a dear, and I love her; and in the second place it was like reading Maeterlinck to listen to her tell "What the Dirt Has Taught Me." It's a horrid-sounding title for such a talk as she gave; but it seems different after hearing it, somehow.

I never would have believed she could do it, and I don't see how she ever did; but who should, if not Miss Lucy, I should like to know? We all know she has just lived in that wonderful garden of hers since the day Tom Marsden was killed—and that was when I was a little girl. She had been showing my mother her wedding things the very day before, and I was there, too; and I have always remembered mother looking out of the window and saying: "The garden is going to be lovely, Lucy, but it will be lots of care." And Miss Lucy came over and rumpled my hair over my ears from behind, as I stood there looking out, too, and laughed the sweetest laugh, and said: "That's really Tom's garden, you know. It was his idea, and to have it right there, where we shall live with it night and day. We are going to have a little stair built down to it from this balcony, so we can slip in and out when the moonlight tempts us and the elves are playing, with all the rest of the world asleep. We call it Eden."



Miss Lucy's garden was her daily care in all sorts of weather, and from the results she obtained she was a good teacher of practical gardening

And Tom Marsden was dead next day at noon! So Miss Lucy went on living alone in her old home, just as she had lived most of her life, poor darling; only after that most of her time was spent in "Eden" instead of in the great, still house. Winter and summer she is out there; and in rain and sun alike. No one ever knew of its name, though, save mother and me—and I don't believe it has ever been spoken since Miss Lucy told it to us that day.

So she has something to tell, you see, whenever she talks about a garden, or anything to do with a garden; and she told it wonderfully, and was just as unconscious of all of us watching and listening as though we had not been there at all. How the soil came to be; what it is made up of; how clean "dirt" really is; how it holds air; how water rests in it and goes down and comes up; how roots travel through it and "mine" the particular food which their plant sends them after; how it is robbed and ill-treated; how plastic it is in our hands, and responsive; and finally, how *old* it is; what it has seen happen here—and how all life springs from it and is constantly a "becoming," world without end, instead of a once-established-and-that-settles-it affair.

I came home and went straight over to the garden and looked at it, where the dark ridges of it lay like ranges of baby mountains turned up at the fall spading; and it seemed different to me than it had ever seemed before. Just dirt, to be sure—grains upon grains of dust, fast locked together now until it is as flinty a mass as ever the rocks, which it once helped to form, were, back in the dim ages, under the spell which winter lays so easily and effectually upon all waters, hidden or in the open though they be. Yet every dust grain has its precious, tiny portion to give—and gives

(*Continued on page* 136)



Nothing is more lovely than a sweep of lawn, but it should never be used to counterfeit an illusion of space. If there are irregular lawn spaces, the garden should be larger than the ordinary suburban plot. Shrubs at the boundaries should be of few species and massed

Scheming the Year's Gardening

THE FIRST STEPS IN A GARDEN LAYOUT—HOW TO MAKE A PLAN AND HOW TO ARRANGE YOUR GARDEN ACCORDING TO THE LAWS OF DESIGN

BY GRACE TABOR

Photographs by Nathan R. Graves, George R. King and Others

THE beginning of a garden is almost the most important part of it; for unless the beginning is good, all that follows will fall very far short of the excellence which might, and undoubtedly would, obtain otherwise. Well begun, a truly beautiful garden is possible almost anywhere, even within a decidedly limited space.

The real beginning of a garden—especially on a small place—lies away back of the time when the initial steps toward making it are taken, however—which is the stumbling block lying in the way of everyone who has not given to the subject of his garden making more than the average thought. For the design and size and content of all small gardens depend almost entirely and absolutely upon the position and plan of the house of which they are an adjunct; hence such a garden's beginning, in the truest sense, is contemporary with the planning and locating of the house.



It is always the great color masses that produce the "breathless" effects. Few flowers is good advice for the beginner

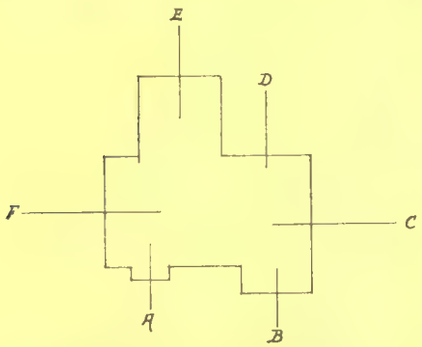
And it is this consideration of the garden and the house as parts of a whole, rather than as independent problems, that will advance suburban garden development with us more rapidly than any other one thing; and that will bring those who are newly confronted with gardening opportunities into the path that leads to delightful success. Just how to "get at it," however, easily and efficiently does not always come by inspiration, even to the most enthusiastic and imaginative and comprehending. So here are the steps to be taken, set down in the order of their advance, and explained—a sort of be-your-own-surveyor-designer-gardener scheme that begins at the beginning and ends—well, of course nothing about a garden ever really ends, so it is perhaps just as well not to say definitely where it ends.

A map of the land to be considered is the first requirement of garden design; not a difficult one to meet when a level plot of ordinary suburban dimensions is the basis of the problem, but growing in difficulty and complication as the form, or the ground surface, or both, depart from regularity. Any large sheet of manilla paper, ironed free of creases, will serve as drawing paper, where there is nothing better to be had; but architects' detail paper is very cheap and may be purchased by the foot or yard in art supply stores, usually. This is heavier and more satisfactory for an amateur draughtsman than any other kind.



The working of a garden axis is well shown in this picture. The main longitudinal axis focuses upon the small tree and is continued to the exact center plot of the garden parapet. This is a decidedly good formal arrangement

If the piece of land to be mapped is of definitely known dimensions it is not, of course, necessary to take your own field measurements; but if it is not, the taking of such measurements will be the first thing towards getting a representation of the land onto paper. Start from any of the boundary lines—choose the longest preferably—measure its length, and draw a line representing this, of the proper length according to your scale. Establish the direction of the next boundary—provided, of course, that its direction is not the usual exact perpendicular to the first line. First draw a circle on the ground with any given radius—5 feet is a good choice—at the end of this boundary, using the exact end as a center; then draw a similar circle on the paper, with the corresponding radius—5 feet, otherwise 5/4 inch. The circle drawn on the ground, with the aid of a string and two stakes, will, of course, cut the boundary which you have already represented on the paper, and the one which you are establishing also. Measure carefully and



In an irregular house important features of the design determine various axes; garden axes should have a suggestive connection with the house



An axis as viewed from its culminating point. These trees are laid along the main entrance axis, which, in this case, is coincident with the path

A scale of ¼ inch to the foot will make an allowance of 12½ inches for every 50 feet necessary, so a sheet of paper about 27 inches square will be required for a map representing 100 x 100 feet if the form is square. This allows an inch all around for margin. Irregular forms will of course have to be calculated for accordingly.

It is better, as well as much more convenient, to lay off the scale on a strip of stiff paper rather than to depend upon a ruler and its measurements; mistakes are altogether too easy with the many inch marks of a ruler to confuse, and the constant calculating which they make necessary. Take a 2 to 3 inch wide strip of any smooth, good quality paper, any length, and fold it once lengthwise to insure a perfectly straight edge. Prick off on this, with a needle point, any number of units of exactly 6¼ inches each. These represent 25 feet, and two are enough to work with on plots of average size. Have three or four if you prefer, however. At the end of the first mark it "25 ft.;" at the end of the second, "50 ft.;" of the third, "75 ft.," and so on. Subdivide the first 25 feet into five units of 5/4 inch each (otherwise of 1¼ inches, of course); mark these respectively—at the right side of each—5, 10, 15 and 20; and then finally, subdivide the first two of these into five divisions each of ¼ inch. These will not need marking, for they are readily counted whenever it is necessary to calculate single feet.

accurately the distance straight across between the points where the circle and these boundary lines intersect, on the ground; and then measure the corresponding number of feet and inches and fractions of an inch, if you can calculate thus closely, straight across the circle drawn on the paper. Draw a line from the center of the circle, otherwise the end of the first boundary line, through this point; measure the second boundary, on the ground, make this line the proper length—and the second boundary is "established." At the other end of the first boundary repeat the same operation—if this next boundary also departs from the perpendicular. Then connect the ends of the two lines thus determined for the fourth side,

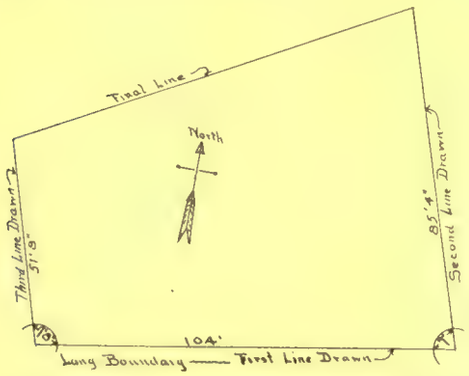


A T-square mounted on a stake with a plumb-line attached serves as a sighting instrument in determining contours

and the outline of the plot will have taken shape upon the paper. Perhaps you may be dealing with a five-sided form; in which event it will be plain enough that the determining of the fourth side must be made from the third; and then the fifth added.

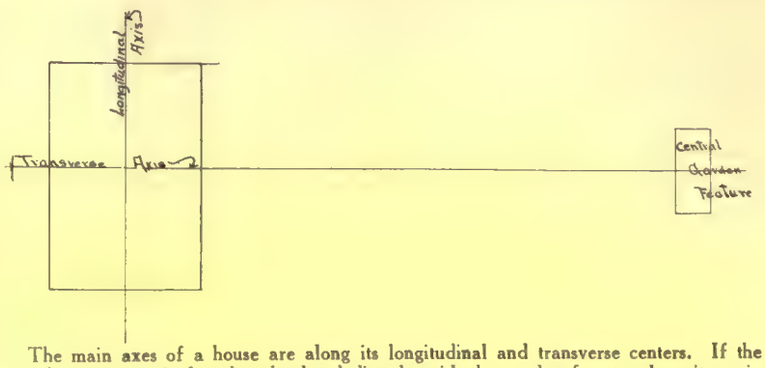
Contour lines are unnecessary on level, or even on quite decidedly sloping land; but land of very irregular surface conformation must have them indicated in order to proceed intelligently with its general arrangement. Determining contours is something of a nuisance, it must be confessed, although it is by no means a difficult undertaking. Two people are necessary—one to handle the poles, and the other to work the levels; and two methods are open to the amateur, either accurate enough to serve the purpose perfectly. One is by means of a T-square attached firmly to the end of a straight and flat-sided pole; the other is with a plane table. The former is more open to error; the latter is a little bit more troublesome to prepare for. Both are given, however, so that choice may be made.

A 50-foot tape line is a valuable assistant, but distances may be paced, so this is not a necessity. Before doing any pacing, however, it is well to measure off 3 feet on the ground and get the "feel" of this stride if you are not accustomed to measuring distance, otherwise you may not succeed in judging the right length.



The development of the boundary plan is the first step in garden making. This indicates a simple but accurate method to plot your lawn

Contours are usually plotted at 5-foot levels, though they may, of course, be any distance apart vertically that one chooses. Five feet gives a pretty satisfactory idea of grade,



The main axes of a house are along its longitudinal and transverse centers. If the house center is found and related directly with the garden feature along its main axis as in this case, unity generally results

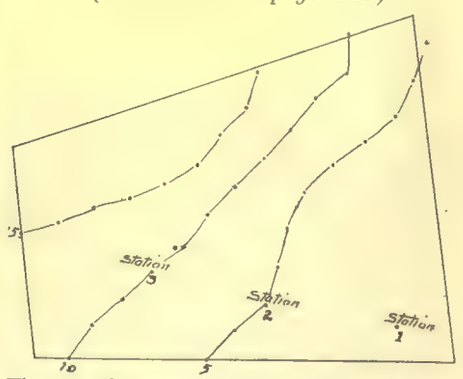
however, and is more conveniently worked than a shorter distance. So the T-square must be affixed to a substantial piece of wood about 1½ by 1½ inches square and just 5 feet in length; the top of its head being exactly even with the top of this pole. The sighting is to be done lengthwise along the head of the T; so in order that this may be kept perfectly horizontal and so insure a perfectly level contour, a plumb-line should hang from the top of the pole on the side opposite the T-square. The whole arrangement will look about like the picture.

Choose the lowest spot on your land for a beginning or first station point; drive a stake here; locate its exact position on your map; mark it *in ink* and number it "1." Standing at this point with the lower end of your sighting pole on the ground beside this marking stake, and the pole kept erect by the plumb-line, sight along the T-square to the boundary, at one side or the other of your plot—I choose the left usually—and have a stake driven here by your helper at the exact point where your line of vision along the head of the T-square is stopped by the rise of the ground. Assuming that you begin the sighting at the left, have a similar stake driven 10 feet to the right of this mark, another 10 feet from this, and so on until the other side of the property is reached. This will give you a line of stakes 10 feet apart, exactly 5 feet higher than the station point. Measure the distance from the station point to the first of these stakes; measure a like distance with your scale on the map from the point 1 to the spot on the boundary where the first contour line is to be indicated; indicate this with a dot, and mark it "5." Next measure from the station point on the ground to the second stake; measure a like distance on your map, making sure to keep exactly 10 feet in and away from the

(*Continued on page* 128)



There may be many separate divisions to your garden. Why not consider fruit trees for one section? They give you shade, flowers and fruit and require little tending



The map of contours is important in irregular plots. The lines represented here show the plan of five-foot levels



A chair adjacent to the tea table suggests the utility of this corner

THE PROBLEM of FURNITURE ARRANGEMENT

HOW TO PLAN THE DISPOSITION OF FURNITURE—THE POSITION OF VARIOUS ARTICLES AND THEIR BEARING ON THE APPEARANCE AND CONVENIENCE OF ROOMS

BY ABBOT MCCLURE and HAROLD DONALDSON EBERLEIN



The arm chair invites the visitor to a corner where he may read until the hostess arrives

HAVE you ever experienced a household moving? If so, have you ever taken a hand in arranging the furniture in your new house or apartment? If you have done so, you probably realize the difficulty of the situation confronting anyone obliged to do the same thing.

It is almost always the same. Your furniture, divorced from its old surroundings, thrust promiscuously into any chance place by the moving men, rebels at the treatment and causes you endless troubles. To begin with, everything seems to have been left in the wrong place, so that it has to be carried to another part of the house, and then, when you get it there, it refuses to go into the place you have selected for it either because it will not fit or else because it seems so utterly out of keeping with its new surroundings.

The ideal way, of course, would be to have one piece of furniture at a time brought from some imaginary storehouse so that you might try it around in various places till you were quite suited, without the embarrassment of sundry more pieces following close behind. Then, when you had it arranged to your liking, you could send for the next piece, and so on.

Unfortunately, the only people for whom this leisurely ideal is possible of realization are those who go into new quarters with practically no furniture and gradually acquire piece by piece as desirable articles present themselves and occasion offers. Or-



Make some central point of interest the situation of a group arrangement. Here the two little tables flanking the fireplace serve a distinct purpose, and the other furniture is readily serviceable for the assembling of guests into a group where conversation is facilitated and the benefits of the fire enjoyed

dinarily, not being able to pursue this deliberate, experimental and reposeful method, we must do the next best thing and try to hit upon some system of disposing of our goods and chattels in their new places without resorting to continued experimental shiftings.

In the first place we must try to do what a great many people find extremely difficult—visualize. As a powerful auxiliary to this attempt to see in imagination how things will look in certain positions it is advisable to draw a diagram floor plan of the room under consideration, taking care to keep all the proportions quite accurate. If the proportions are not kept accurate the diagram will only be misleading and cause mischief to your attempts.

On this floor plan, as a guide in furnishing, the proposed location of the rugs and various pieces of furniture must be mapped out and experimented with. Experiment is absolutely necessary to get the best result. Nothing short of superhuman omniscience could hope to achieve success without it. But experimenting on paper is much less trying than experimenting by lifting and pushing heavy weights. It is also less damaging to the furniture itself. If you use pieces of paper cut to the shape of your rugs and furniture and in scale with the plan they may be moved around to give you a good idea of the available spaces.

Before making this plan, however, and setting to work on our diagrammatic experiments we must thoroughly study the properties, the natural history and disposition, so to speak, of the room we are about to furnish. We must consider most carefully its length and breadth and any peculiarities of shape that may characterize it. We must determine whether we wish to accent the breadth and diminish the appearance of length, or vice versa. We must decide whether we wish to make the room appear larger or smaller than it really is.

Next, the height of the ceiling demands thought. If it seems too high we must plan to "bring it down." If it appears too low we must see how it can be raised. After this the location of the doors and windows must be studied and their relation to each other noted. Likewise we must think about the available wall spaces against which we may set the larger pieces of furniture. This done, in due order we study the exposure or lighting so as to determine the colors of paint, paper and upholstery and the most advantageous arrangement of curtains and hangings.



This is in reality a moderate-sized room, yet the open arrangement and the clear center give the impression of great space



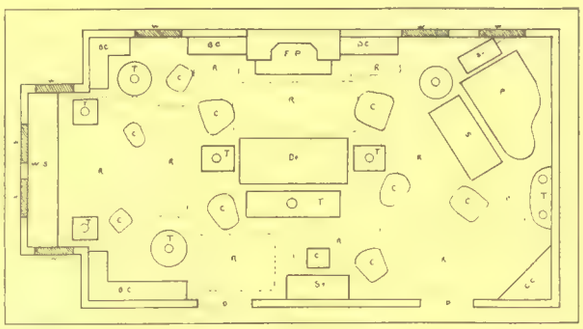
In this German study the position of the desk out from the window, and the disposition of the surrounding pieces show a judicious and logical arrangement

Now, all this may seem very complex, and to many it may appear quite unnecessary. The only answer that can be made to such people is that whatever is worth doing at all is worth doing well, and that to do anything well we must not grudge pains or close attention to detail. It is quite true that some may dispense with this course of procedure and arrive at happy results by chance, but haphazard ways are always fraught with uncertainty. Or again, others with more power to visualize than most people are blessed with, may plan out the room to the minutest detail and see the whole picture so plainly in their mind's eye that they do not need further guidance and can work perfectly well from their mental survey. For the majority of people, however, the methodical plan will be found far safer even though it be slower.

There are certain well defined principles of optical illusion that must be taken into consideration when we are making the preliminary study of a room and getting ready to use the furnishing diagram. For one thing, it is a well-known fact, at least among decorators, that vertical lines on a wall will increase the apparent height of the ceiling, while, on the other hand, horizontal lines on the walls will bring the ceiling down. Therefore, striped papers and all vertical lines are to be avoided when the ceiling is too high. By the same token, a picture molding, or any other horizontal lines, will help to remedy the defect. It is also a perfectly demonstrable fact that horizontal lines carried around the

walls of a room will materially increase its apparent size. On the other hand, a room that seems too large and requires tying together may have its apparent size reduced by using vertical stripes. While speaking of this doctoring of dimensions by means of optical illusion, it is worth noting that a wall paper of a pronounced all-over pattern will diminish the size of a room, while a perfectly plain paper will at least give it the full benefit of its true size, and in some cases make it seem larger.

The same principles of optical illusion are involved in the arrangement of furniture in rooms, although the method of application may vary slightly at times. That principles and system in the matter of arranging furniture really do count for something and are not merely a lot of fine talk, you can prove for yourself if you are willing to take the trouble. With the same room and precisely the same furniture, without the addition or subtraction of a single piece, merely by dint of arrangement and rearrangement, you may so alter the apparent size and shape of a room in three or four or five different ways, as the case may be, that you will be astonished.



The letters in this plan represent: *O*, lamp; *D+*, divan; *St*, secretary; *R*, rug; *Bc*, bookcase; *Ws*, windowseat; *Cc*, corner cupboard; *P*, piano; *S*, piano bench; *D*, door; *W*, windows



Furniture position is partly determined by the purposes of utility and the convenience of conversation. This arrangement is a simple way of relating the parts of a room about a center. The table supplies a suitable place for the main light source

We all naturally wish our rooms to appear to the best advantage. Whether they do so appear depends largely upon our understanding and use of the underlying principles of furniture arrangement, as well as upon the share of good taste with which we may be endowed. Indeed, good taste might almost be defined as an intuitive grasp and instinctive practice of these principles in their most successful application.

To begin with, the well-arranged room must have balance. It is quite obvious that it will not do at all to have all the heavy pieces of furniture congested at one end or ranged along one side while other parts of the room resemble the Desert of Sahara or are only sparsely settled with insignificant pieces. But, to secure a nicely adjusted poise, an air of easy balance and restful self-possession, means a great deal more than merely to rout out the congestion or ranges of heavyweights and scatter them at intervals about the apartment.

In striving to attain balance in the arrangement of furniture it must be borne in mind that a great many pieces have distinct architectural characteristics and affinities that we too often either do not recognize or ignore. If, for instance, a cabinet has a straight horizontal top, trimmed with a bold cornice, it catches the eye at once and helps to convey a sense of space and breadth. That such a seemingly small detail as a horizontal cornice has a great deal to do in creating an impression of breadth we may understand by trying a simple experiment. Take the cabinet away from where it stands. The wall space back of it may be in an alcove, or it may perhaps be between two windows. At any rate, the chances are that when the cabinet is removed the space does not look as wide as it did before; does not look as wide as the cabinet itself. Probably, if the real truth be known, when you first looked at that particular space you thought it would not be wide enough for the cabinet, and were not convinced until you had either measured it or actually tried it.

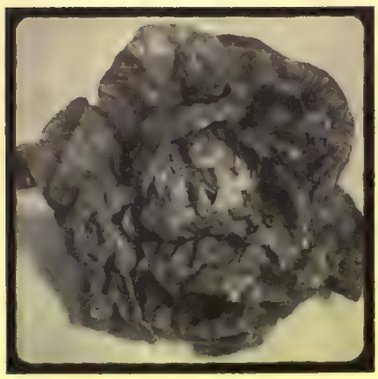
So much, then, for the important and insistent values of these architectural features in furniture. The eye, having caught the dominating horizontal line of the cornice, passes on, but naturally expects to find it echoed in some other portion of the room, perhaps opposite in the bold, straight top of the mantel or the top of a secretary, and when there is no such response there is, even unconsciously, a sense of disappointment and dissatisfaction.

Another highly important consideration in securing proper balance or poise in furniture arrangement is massing, and massing particularly with reference to lighting. Common sense will dictate a reasonably equal distribution of the masses of cabinet work, but we do not always think about light and shadow. Avoid putting small and inconspicuous pieces of furniture in dark corners where they are completely blotted out in the gloom of a spot that conveys nothing but an impression of vacancy.

Such a spot needs some bold, strong object to give it due balance and decision. The reasons for much of what has been said seem so plainly apparent that one would hesitate to dwell on the subject at all were it not for the glaring instances of indifference or deplorable ignorance that confront any observant person at

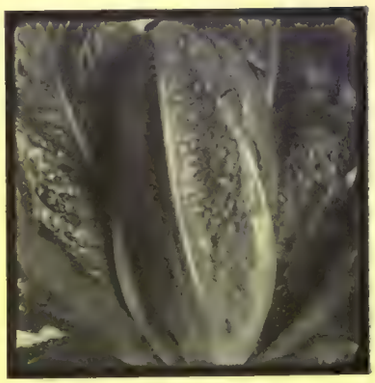
(*Continued on page* 144)

Crops of Quality for the Home Garden



THE DESIRABLE SALAD PLANTS—NEW VARIETIES DESERVING ATTENTION—CULTURAL DIRECTIONS FOR GROWING LETTUCE, CELERY, ENDIVE, ETC.

BY D. R. EDSON



EDITOR'S NOTE: *We have consistently endeavored to emphasize the fact that the one unanswerable argument for the home garden is table quality. You may or you may not be able to grow things cheaper than you can buy them—most people can. But the fact that admits of no questioning is that by growing your own vegetables you can have them better. Only so can you have them absolutely fresh; only so can you make sure of having varieties that have been selected solely for table quality. In this series of articles the most important of the garden's products will be discussed from the standpoint of quality. Special points of culture also will be suggested, with a view of obtaining not only prime quality but a continuity of crop over the longest possible season for each kind of vegetable. The first article appeared last month, and dealt with the culture of peas.*

NO class of vegetables is more delicious or more healthful than the salads. None other may be grown with greater ease or had with all the delicacy and deliciousness of absolute freshness so nearly around the circle of the year.

The points of quality in a salad are freshness, tenderness and crispness, and without these they become at once flat, stale and unprofitable. The secret of having salads fresh and crisp is to grow your own, for they lose quality from being kept more quickly than most things. The secret of growing salads that are tender and sweet is to grow them rapidly, without any check or setback, in a suitable, rich soil. The soil for growing salads, indeed, can hardly be made too rich, even with nitrogenous plant foods; there is no danger, as there is with most vegetables, of getting too luxuriant and succulent a growth of leaves, which is often the result of too much nitrogen. With most other vegetables it is the fruit or fleshy root in its more or less matured stage that we use; but with salads it is the leaf, stalk and foliage itself, and the more succulent and tender they are the better. In addition to a rich soil, if a good quality is desired, good culture and plenty of moisture must be supplied to secure that rapid and unchecked development which is essential. Top dressings of nitrate of soda are especially beneficial.

Of the several excellent garden salad plants, lettuce is the most extensively used, especially for spring and summer; so we will turn our attention first to it. This is just the time to start the first crop for early spring use in the frames, and in a week or two seed should be sown to start the first crop out-of-doors.

Success with lettuce depends first of all upon selecting a type suitable to the season in which you expect to grow it. They may be separated first of all, of course, into the loose-leaved and heady sorts. There are some people who prefer one or the other exclusively, but to obtain the best results all the year round both should be made use of. For the purpose of selecting varieties adapted to the different seasons, we may divide them as follows: The forcing or frame type, which is for planting under glass and also for planting for the earliest results out-of-doors; this includes the medium-sized, hardy sorts which will develop with a cool temperature, and include such well-known heading varieties as Tennis Ball, Big Boston, May King and that splendid newer sort, Way-ahead and Grand Rapids, the best of the early loose-leaved sort. Then there is a little brown, very small heading sort called Mignonette, which one seldom hears about, but which is absolutely unsurpassed in table quality, and, although it is small, can be planted closer so that more heads can be obtained. But all of these sorts bolt to seed very quickly when hot weather begins to arrive, so when starting them, or very shortly after, a supply of one or more of the varieties which will stand better should be started to furnish a succession crop, and another lot should be sown as soon as planting outdoors is possible. Both types of the heat-resisting or summer head lettuces form hard, solid heads, but the form of growth, texture, thickness and quality of the leaves are quite distinct. The best known of these two types are called the "butter-head" varieties, including such old favorites as The Deacon (San Francisco Market), Nansen (North Pole), and All-Seasons. Black-seeded Simpson and Tomhannock are two loose-leaved varieties which withstand the heat of early summer very well, and may be used for this second planting if one prefers the loose-head sorts to the head sorts. A type which is not so well known, but which withstands the intense heat of midsummer even better than the varieties just described, is comprised in the extra large, thick-leaved and hard-heading sorts, such as New York (Wonderful) and Brittle-ice, which is quite similar, but of a lighter color and more tender texture, and Nansen and Iceberg. The strong incurved midribs of the leaves in this type make the heads almost as solid and firm as that of a cabbage, so that they remain closed and crisp and tender inside, even in July weather.

A second and third sowing of these sorts should be made again during the early summer to provide a continuous succession. Early in August the first sowing for the fall crop should be made of one of the "butter-head" varieties, or Grand Rapids. Some of these will mature outside in ordinary seasons, and others may be put in the frames to yield a supply until after Thanksgiving. Big Boston is very good to use for this sowing, as it withstands cold weather very well. If it is intended to keep the supply up throughout the winter, either in a hotbed or under double-glass sash, another sowing should be made early in September, using Grand Rapids or one of the head sorts, such as Tennis-ball, Belmont Forcing or Big Boston, the latter, however, being more subject to rot.

The Cos type is also good for summer and fall use, and, although they are slightly more trouble to grow, as most of them need tying up to blanch properly, their extra fine quality will well repay this slight extra care.

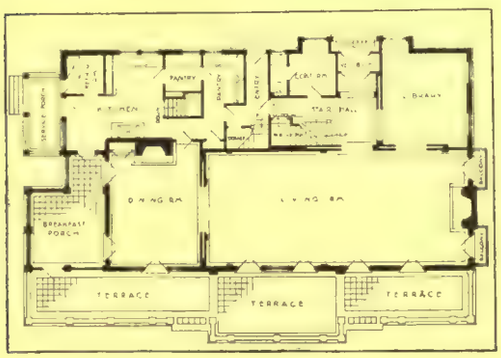


Celery plants are usually set about six inches apart, and three or four feet should be allowed between the rows. It is essential, also, that they be transplanted once

(*Continued on page* 136)



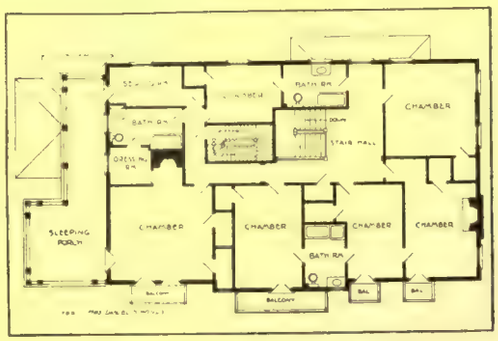
The house stands at the brink of a steep declivity and looks out upon a widespreading view. The situation, therefore, determined largely the room arrangement, and the service rooms are all on the upper side of the house



There is much terrace porch space and a great living-room occupying all one side of the house

THE HOME OF MRS. DANIEL SIMONDS, FITCHBURG, MASS.

W. S. Covell, architect



In addition to the numerous bedrooms there is a large sleeping porch running the whole depth of the house



There is no elaboration about the entrance doorway, but the decorative element consists mostly of windows which lighten the vestibule and stairway



One part of the terrace was utilized as a bowling green, so that it affords the interesting decorative element as well as a place for recreation



At one end of the bowling green, a pergola, rose-covered, provides a pleasant resting place for those who play the game



The house is treated in a formal manner and box and evergreen trees are used to carry out the feeling of symmetry



The great living-room is practically all windows on two sides and is planned so that it may be available for all sorts of entertainments



Above the dining-room wainscoting a frieze of peacocks has been painted in an interesting scheme of blues and greens



The house is almost symmetrical and balances even to the arrangement of the small trees, except at one end, where the breakfast and sleeping porches are. Here an attractive form of the French awning, projecting out over what is really a wing to the house, adds just enough variety to prevent the house from appearing stiff



Inside the House

Timely Suggestions and Answers to Correspondents



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

A New Centerpiece

FROM Japan there comes a novelty in the shape of a plant for use indoors, either as a centerpiece for the table or in a window garden. It consists of clumps of sea grass attached to the pieces of coral rock on which they originally grew. That is, in exporting the plants for use in this country pieces of the coral rock are broken off, each holding one or more bunches of the grass, which continues to thrive just as well in its new surroundings as in the old. No two of the plants are quite alike and they vary considerably in size.

They are quite easily cared for, as they are placed in a shallow bowl containing about two inches of water with a layer of pebbles on the bottom if one happens to have them, though these are not absolutely necessary. The coral rock is so porous that the water rises in it and so keeps the roots of the plants moist, and the only care necessary, in fact, is to see that the whole thing is kept damp. If the rock is too large for the water to rise to the top of it, a little water should be poured over it every day.

As an indoor plant, it is most satisfactory and quite unusual in appearance, for the coral, which is beautifully marked, looks like a miniature crag, and the grass is fresh and green and decidedly healthy looking. In arranging the small Japanese gardens for the table, these plants are quite useful, as they give just the right appearance of solid earth and rock with green and growing things.



A new and attractive centerpiece from Japan, consisting of sea grass and coral

A Small Upstairs Living-Room

A CLEVER utilization of space that would otherwise serve only as a passageway has been made in a recently completed country house that has a wide frontage and is so planned that the hall on the second floor is rather long and narrow, and instead of running through the house from front to back is parallel with the rear wall, the various bedrooms opening into it from front and sides. At one end of the hall is the staircase from the first floor, and although there is a third story the stairs are not continuous, but an enclosed stairway to the next floor opens off one side of the hall and is built around the central chimney of the house.

In most houses this upstairs hall would be merely a small, rather nondescript apartment with many doors and two staircases opening on it, but in this case it has been turned into an upstairs living-room by the addition of a fireplace and a large window seat. Almost the entire outside wall of the hall, which is also the rear wall of the house, is taken up by a large window, built out slightly, so that a bow window is formed, and in this space is a window seat of generous size with a top that lifts up, disclosing an excellent storage compartment underneath. Directly opposite the window seat is the chimney, and a small fireplace of rough brick has been built, with a mantelpiece that corresponds in size and general appearance.

Neither of these attractive additions to the room occupies any appreciable amount of space, and yet with the big sunny window and the cheerful fireplace it is by all odds the coziest and most homelike apartment in the whole house, and not just an ordinary little upstairs hall that is a necessary evil because there must be a space on which the various bedrooms and bathrooms open.



This handly little work stand folds up somewhat in the manner of a camp stool

A Folding Work Stand

FOR the convenience of the woman who likes to have a well equipped sewing stand but who does not care to give up much space to it or to have it too much in evidence, there is a new variety that is designed to meet just such requirements. It is made on the principle of a camp stool and the folding legs are of wood, wrapped with English wicker and tipped with brass. A large envelope-shaped receptacle made of dark green morocco and lined with moire silk of the same color is attached to the folding stand in such a way that when opened it forms a sewing stand with capacity for a considerable amount of work, but when closed it folds perfectly flat just as a camp stool does. The stand is completely equipped with scissors and all of the necessary sewing articles, each in its own holder, and there is a substantial snap lock of nickel with a key.

For Cleaning Day

THERE seems to be an effort in these days to make everything as attractive-looking as possible, and even the utensils needed for the most humble household tasks receive their share of attention. For scrubbing day, little square mats of linoleum, on which to place the pail, are shown in a number of pretty designs. They are not squares cut from a large piece of linoleum in an all-over pattern, but each has its own completed design, making a really pretty little mat, that is useful as well in protecting the floor from marks made by the bottom of the pail. There are also serviceable scrub pails, painted in various colors, and made with extensions at the side for holding a bar of soap and cloths for cleaning.

Some Pantry Conveniences

WHEN building a new house it is advisable to have a radiator with warming shelves put into the butler's pantry, as by its use dishes for hot viands are always in readiness. If the butler's pantry is sufficiently large, table shelves that hinge to the side walls will be found a great convenience when a large company is to be entertained, since the dishes for each course may be placed on them as fast as prepared, thus leaving the kitchen tables free to accommodate the used dishes as they come from the dining-room. The shelves should, of course, match the woodwork predominating in the rest of the room.

Many housekeepers prefer to keep the flat silver that is in daily use in the butler's pantry, and for this purpose one of the shallow drawers is lined with black velveteen. Thin board partitions (also covered with the velveteen) are put in, that the various forks and spoons may easily be kept separate. Too much care can hardly be given the pantry, for it is here that many unnecessary steps can be saved the housekeeper if the place is convenient in every detail.



The battery candle for dining-table use is attractively made in several designs



An electric bedroom candle, whose battery is enclosed in the porcelain tube

Dry Battery Lights

THE little electric flash light, with its dry battery, that has been in use for a long time has proved itself so serviceable that it has developed into much more elaborate forms, with lights that will burn continuously and give the same service as a regulation electric light.

Some of these dry-battery lights are intended especially for houses in which there is no electric wiring, and others are serviceable for general use when a movable light is required. Among the former are candles for the dinner table that have the appearance of ordinary candlesticks, except for a small electric bulb in place of the wick, and an inconspicuous push-button inserted in the base, by which the light is turned on and off. The candlesticks may be had in various designs of plain and chased silver, and also of ivory-tinted wood, with perforated silver shades, to be used with linings of any desired color.

A bedroom candle that is less elaborate, but quite as useful, has a holder of nickel with the dry battery enclosed in a porcelain tube made to resemble a candle, and a tiny bulb at the top. The light, which is turned on by means of a spring over the handle that is pressed down with the thumb, will not burn continuously, but only when the spring is pressed.

For outdoor use there is a watchman's lantern with quite a powerful searchlight reflector, made of nickel, with a swinging handle and a push-button at the top, so that the light can be easily turned on with the same hand in which it is carried. The lantern is small and compact, but capable of throwing a strong light over a considerable area.

Everyman's Window Pole

HAVE you often wished for a cheap, strong window pole that would match the trim of each room? Would you like to be able to make a few at less than ten cents each? You would not have to run up and down and through the house every time a window is to be raised or lowered, looking for a window pole, nor would you have to climb on chairs to reach the sashes. Here is the solution: Take an old broom-handle; paint it the color of your room; insert at one end a screw-hook. Screw into the upper sash of each window in the room a ring-screw for the hook on the pole, and your window pole is ready for immediate use.

Glass Knobs

AN old fashion that has been revived recently is the using of ornamental glass knobs for fastening back long curtains or for supporting unusually heavy pictures. The knobs or flat discs are done in a convential design and are made of several shades of glass, one color predominating, however, so that the general effect is of a single tone.

The knobs are attached to long holders of nickel or silver plate, at one end of which is a substantial screw, the other end going through the center of the knob, which is held in place by a metal cap that screws on. Several different colors may be had, the lighter shades, with their opalescent tints, being particularly attractive looking.



This electric hand lantern, with its powerful searchlight, is small but very efficient

THE GARDENER'S CALENDAR

Wherein is laid out his daily work for the year, together with sundry facts useful or interesting.

Second month
Morning stars—Venus, Jupiter

February, 1914

Twenty-eight Days
Evening stars—Saturn, Venus

Sunday	1. ♑ Tack up suet and meat for birds and provide them with water somehow; they suffer for it during ice-bound weather. Order manure for hotbeds if it is not on hand. Take down and burn Xmas greens.	8. ☽ If you have not made use of the cold-frame yet, put sash on to-day and let it begin to thaw out. This is an important part of your garden that needs attention now.	15. ☺ Go over all the garden plans, check up, see that everything is in readiness; do any ordering that has been overlooked; be sure that nothing is missing nor out of order.	22. ☾ George Washington born 1732. Renew bird supplies; chickadees are about, and there is great activity in birdland—but no worms yet.
Monday	2. ♓ Feast of the Purification or Candlemas; "ground-hog day." If the ground-hog sees his shadow once during the day, back to his den he goes for six weeks more; winter is but half over. Snowdrops may bloom!	9. ☽ Transplant into new quarters the seedlings of last month's sowings. Most of them will be large enough by now, but beware of frost.	16. ☺ Steam will be rising from the piled manure by to-day or to-morrow; fork it over when this appears, turning the outside inside; then leave to warm up again.	23. ☾ Transplant to hotbed seedlings that are ready to be moved from indoor flats. Raise sash slightly when sun shines directly on it, to ventilate every warm day, but be sure it is closed snug by mid-afternoon.
Tuesday	3. ☽ First quar. 5h. 33m. A. M. Stack manure for hotbeds. Prepare one or two flats and water to be ready for seeding to-morrow. Look out for birds' water dish daily.	10. ☺ Full moon 0h. 35m. P. M. Keep bird supplies renewed; new arrivals add to the consumers every day now. Robins are due in the latitude of New York.	17. ☾ Last quar. 4h. 23m. A. M. Cut branches of trees and shrubs and bring in for forcing the blossoms. Dogwood, pussy willow, Forsythia, laurel, cherry, red maple all do well.	24. ♓ New moon 7h. 2m. P. M. Eclipse of sun visible around South Pole. Start early potatoes in the hotbed; transplanting as necessary; may finish growth in garden or in coldframe.
Wednesday	4. ☽ Sow seeds of dahlias, violas, cosmos, ten weeks' stock, delphinium, digitalis, hollyhock, dianthus; cabbage, cauliflower, lettuce, beets, celeriac and celery in flats to-day.	11. ☺ Sow mustard seed in flats for early, pungent greens; force a plant or two of rhubarb by covering with a bottomless barrel and heaping manure around this; cover at night and when very cold.	18. ☾ Move deciduous trees and shrubs, if the ground allows at this time; too early for nursery material but a good time to transplant anything you may wish to shift that is already on the place.	25. ♓ Ash Wednesday; the beginning of Lent. Make a second sowing in hotbed of same vegetables sown earlier in flats.
Thursday	5. ☽ Sterilizing the soil to be used in flats kills weeds and insect life. It may be done by baking for two to three hours in what cooks call a slow oven.	12. ☺ Abraham Lincoln born 1809. Mulch young trees, shrubs and the hardy border, if not done earlier, to protect from the thaws of this and next month; these are deadly.	19. ☾ Spread and pack manure for hotbed 18" deep; set the frames, deep end to the north; put in earth and make ready; put on sash and leave to heat up.	26. ♉ Cover hotbed sash and coldframes with burlap or straw mats at night. Spend some time in trimming shrubs, cutting out only the old wood.
Friday	6. ☽ Dress lawns lightly with bone meal if sheep manure was not used last month. Make some bird houses; they will be needed soon.	13. ☺ If the manure for hotbed is dry, sprinkle it well with tepid water to-day, to start decomposition.	20. ☾ Make cuttings of chrysanthemums, Paris daisy and begonias now to get plants for bloom indoors next fall.	27. ♉ Till the soil in hotbeds and keep a close watch for aphids; spray with soapsuds if they appear.
Saturday	7. ☽ Sow seed of beans, carrots, cucumbers, peppers, tomatoes, egg-plant and radishes in a flat.	14. ☺ St. Valentine's Day. Birds are singing everywhere now; fancy has it that they choose their mates to-day. Houses should be ready in place by now.	21. ☾ Take a look at thermometer in hotbed daily. Do not venture to plant anything until the temperature has dropped to 90 degrees or less.	28. ♉ Renew bird supplies and keep fresh water for them; once they are accustomed to feed and seek water in a given place they will go on doing so, to the garden's great advantage when insects arrive.



This calendar is fitted to the latitude of the Middle States, but is available for the whole country if it be considered that for every one hundred miles north or south there is a difference of from five to seven days later or earlier in performing garden operations

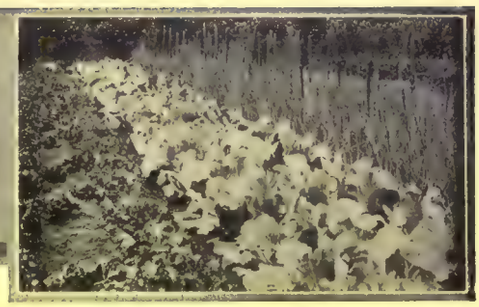
"Half of your corn and half of your hay, should be in your barns on Candlemas Day."
"Rose sky at night, Sailors' delight; Rose sky in the morning, Sailors take warning!"

Considerable rain and generally unsettled weather throughout the month probable.



Garden Suggestions and Queries

The Vegetable Garden



CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening* and *Gardening Indoors and Under Glass*

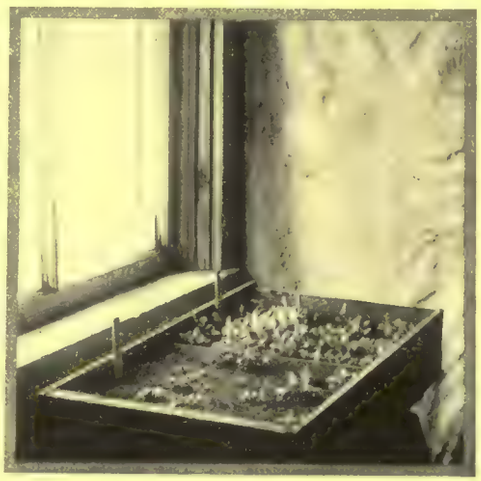
The February Garden

THERE are three distinct jobs to attend to this month, which should have your attention promptly. The usual method is to put them off, because there may be for the present no sign of the break-up of winter and the return of spring. They are: to order your seeds; to get the hotbeds and coldframes into operation, and to start your early garden plants.

It may seem to you that as yet there is no need to hurry about ordering seeds, but within a week or two it will be time to make the first plantings of the earliest things, such as cabbage, lettuce, beets, onions for the transplanting method, etc. And the seeds for the first planting, in the garden at least, should be ordered along with these, because some of them will be the same as those you want for starting under glass; and because the others, which will be wanted before long, anyway, can be ordered to better advantage now, while stocks are full and no annoying substitutions will be made, and no exasperating delays, such as are likely in the "rush season," will take place. Your order for the tenderer things, such as beans, melons, squashes, corn, etc., may wait awhile if it has to, but you will, or should, plan to start some of these things in paper pots in the frames in March or April, so you may as well do the whole job at once and be done with it.

Seeds and Seeding

THE seeds should be of the proper varieties, those recommended for early planting in the catalogues, such as Copenhagen Market cabbage, Grand Rapids or Big Boston lettuce, Snowball cauliflower, Prizetaker onion, Early Model beet, etc. The "flats" are simply cracker boxes sawed into two-inch sections and bottomed in such a way, either by leaving the boards a little apart or boring several half-inch holes in them, that sufficient drainage will be given. The soil should be very light and friable, preferably prepared by mixing together and running through a sieve equal amounts of leaf-mold, old rotted manure and clean soil, with enough sand added to make it thoroughly friable; but light garden soil, free from weed-seeds, will do if no other is available.



Lettuce may be started in flats placed at a sunny window

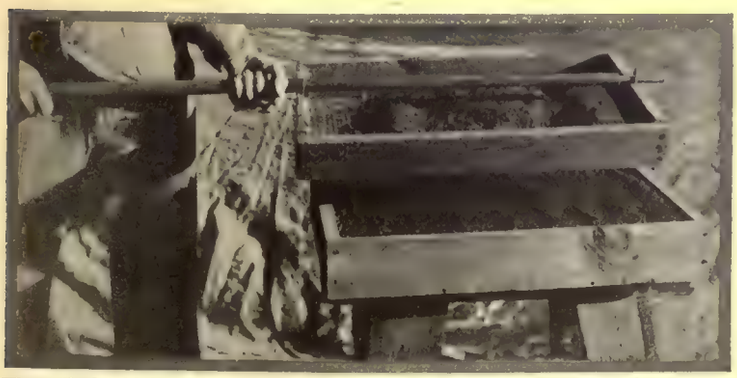
The place in which to start seeds should be very light, either under glass or near a window, though they might be kept dark until they begin to come through the soil. The temperature should not go below forty degrees or so at night.

Fill the flats nearly to the top with soil, press it down lightly and perfectly even and smooth and then give a thorough watering. The best way to do this is to set the flat of soil in a tub or the sink and let the water soak up through it from below. This will do the job more thoroughly, without overdoing it, than any other method. Let the surplus water drain off, and if the surface should be at all sticky from the flat having been left to soak too long, let it dry for a few hours before planting. Sow the seed thinly in narrow rows, two inches or so apart, and cover very lightly. Put the flat in some place where for the first few days it will get as much "bottom heat" as possible—on water-pipes, the back of the kitchen range, or almost directly on the manure in the hotbed. Keep covered, but not air-tight, with a pane of glass, to conserve the moisture. As soon as the first signs of germination appear remove it to full light, where a temperature between forty or so at night and sixty to seventy during the day can be had. When water has to be given, apply it only on the morning of a bright day, and then give a thorough soaking, which will wet the soil well, but dry off on the surface and on the leaves and stems of the little seedlings, before night.

Put the Frames in Order

IF your sash and frames are not already in condition for use, get them so immediately. If any lights are broken get glass and "liquid putty" and repair them; the latter material is a great time and trouble saver in patching up old sash. If

(*Continued on page* 126)



The soil should be light and friable, preferably prepared by mixing the various ingredients together and sifting them



The soil in the flats ought to be firmed down fairly well, using a short board to ensure an even surface

EDITORIAL

THE LEAGUE OF AMATEUR GARDENERS

THE plea of an ardent garden lover that we print below has been lying unprinted a long while. It was a little premature in its sanguine expressions, perhaps it still is. But to-day we publish it; to-day we add our own urgings for a concerted campaign for gardens. It is a fine thing for each man to have his garden; good for the neighborhood, good for himself, but something more is needed, something inclusive.

There is now the first flicker of the dawn of a co-operative era. Towns and villages are just beginning to take up the housing question, to consider the chamber of commerce a real entity in the uplift of the community. There are village improvement societies as well. It is now time to broach the subject of a garden league. Even the hardest heads are now agreeing that the beauties of natural things works a good so real that it can be measured! So the co-operation of gardeners must come. It is necessary for the increase of the individual's proficiency as a craftsman; it is necessary for the extension of the garden idea. And we don't have to wait for that philanthropic leader who is going to organize the amateurs of the country. We can make a beginning with the garden club. This can be the developing unit that starts the powerful body into which it later coalesces. Elsewhere is the story of an ideal garden club and its doings. Perhaps it will show the means to many; here are merely hinted some of the possible ends.

"For the amateur home gardeners, I wish to make a plea, not only for those confined to flat dwelling and porch and window gardening, but the home owners, in city and suburb, who are willing to devote time and means to make their surroundings attractive. Large estates employ skilled gardeners. In the small home the owner is mainly his own gardener, minus the skill. Therein lies the trouble. I am not unmindful of the many articles written for his benefit, conflicting as some of them seem, owing to the various conditions under which growing things thrive or die. They are helpful, but they are not enough. They leave unsaid so much of value. Why? How? These words are on the lips of the amateur gardener from early spring to autumn.

"I say this, because I know, having just passed my first year in a garden, as master of its fate. And during that time I experienced many of the difficulties which confront the serious gardener, who wishes to make his small plot of ground yield its utmost in beauty and material need. The writers on gardening matters doubtless are well informed—too well informed, it would seem to the amateur. In their long experience they have forgotten too much of the small but important details.

"The Flower Show, beautiful as it is, is of no direct value for the individual who does not possess a greenhouse or conservatory, though its display of shrubbery has of recent years been full of suggestions, as to what may be done, but not how to do it.

"Though living for many years in a city flat, I gathered books on the subject, read and studied them and planned many gardens—on paper. It is because of the difficulties that confronted me when at last I began my real garden—the many details unthought of until they were to be met—that I began to wonder how the many, possessing even less knowledge than I and not much more practical experience, had patience to persist from year to year in the face of, if not absolute failure, certainly discouragingly meager results for the outlay of time, money and hope. Surely it is the primal and eternal joy of the work, not the fullness of the return, that saves home flower growing from extinction. But each year the soil calls, and those whose hearts are near to nature, hear; from the large estate with its many skilled gardeners to a city's attic where a handful of earth is sprinkled with seed, comes the response.

"I made it a point last year whenever possible to talk with any home flower grower I chanced to meet. I was often surprised at the eagerness, the pleasure evinced in freely discussing with a stranger—if flower lovers can be strangers—their successes and failures.

"I met a member of the guild one Sunday morning last spring in Garfield Park. I followed him from flower to flower along the border. Before I left him I knew something of his efforts to raise plants of equal beauty. As we separated he said: 'Well, I suppose we will learn some time—I suppose.' The final 'I suppose' voiced discouragement.

"The more I thought of it, the more convinced I became that there was a need for a more direct and adequate method of encouragement, and the placing of information within the reach of the home gardener, than the chance newspaper article, seedsman's catalogue, and even books and magazines. All of these are well enough so far as they go, but they cannot go far enough. There must first be a better understanding on the part of many home gardeners, of the very necessary, but most elementary knowledge of floriculture, before the readers are able to discriminate and apply to themselves that which they need.

"In a 1673 edition of Bacon's essays he begins the one on 'Gardens' (spelling simplified) as follows: 'God Almighty first planted a Garden; and indeed it is the purest of Human pleasures. It is the greatest refreshments to the Spirits of Man, without which Building and Palaces are but Gross Handiworks. And a Man shalt ever see, that when Ages grow to Civility and Elegancy, Men come to Build Stately, sooner than to Garden Finely; as if Gardening were the greater Perfection.'

"In all the forms of true art, in the things which give the best and purest pleasure—music, painting and their kindred—these in their highest development are beyond the reach of all except the few. So many of the very beautiful things in this world carry with them a correspondingly prohibitive price. Flowers alone of these treasures may he had almost for the asking.

"There should be some place where bewildered amateurs could take a weakly plant, a blighted bud, a destroying insect, a handful of earth, and have their troubles explained away. Could not an association be formed under the auspices of the Horticultural Society; in fact, be a practical outgrowth of it? There should be annual dues, not, however, obligatory; the individual head some well-known, successful amateur gardener. Many divisions and branches could be established in small cities and towns, being either independent or affiliated with the city or state society.

"A cottage might be built in some park, surrounded by a model garden. Shrubs and tall plants could form the line of inclosure, with perennials and annuals properly placed as to height, time of blooming and harmony of color. The scheme would embrace, as well, window and porch boxes, with growing plants suitable for the different exposures.

"Lastly, as the crowning feature, there would be a thoroughly informed, practical gardener of monumental patience to answer questions. He would show one how to plant a seed or slip a geranium in sand, another how to enrich the soil or throw light on the mysteries of mushroom growing. Any teacher will acknowledge the worth of one practical demonstration over a dozen written ones. When such information for the individual need is made thus easily accessible, there will be a thousand flower growers where there is now one. Reading matter will be eagerly sought and the growers' interest stimulated to demand more of their few feet of earth."

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Stained with Cabot's Creosote Stains
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Garden Suggestions and Queries

(*Continued from page* 123)

you need any new sash, mats or shutters, order them immediately. If your equipment does not include a sash or two of the new double-glass type, by all means invest in some. They are more expensive than the standard sort, but very much more efficient, especially where one has no, or a limited supply of, manure for furnishing heat in the frames. If the frames themselves have any cracks, holes or knotholes, cover them with a couple of thicknesses of tar or building paper, and if possible bank them up well with the ashes from the furnace.

If you are planning to have a hotbed with manure heat, get the material ready for it at once. You want clean, fresh manure, without much straw, and no coarse, lumpy, bedding material. Stack it up in a square, compact heap; tramp it down well, if it is at all dry, give it a good soaking, especially toward the center, with water. If you can get enough leaves, short straw, or some material of that sort, to the amount of about one-third, in bulk, of the manure, mix it through the heap. After the heap has stood for several days, and become thoroughly heated through from the process of decomposition, re-stack it, putting the outside in the middle of the new heap. Repeat this once or twice more, until the whole mass is of a uniform consistency and actively decomposing, when it will be ready to go into the frame. Remove several inches of the surface soil, and put in the manure to a depth of eight to eighteen inches, according to the season, climate, what it is wanted for, etc. Tramp the manure down hard and replace the soil. If it is still lumpy and partly frozen, put it on as evenly as possible and leave it to thaw out, keeping the frames covered as tightly as possible, but removing shutters or mats during the day, so that the sunshine, which will run the temperature up quite remarkably when the sash is kept closed, may be taken full advantage of. You should get the frames, either hotbed or coldframe, thawed out and warmed up as far in advance as possible of the time you plan to begin actual planting or sowing.

The perennial but ever important job of plant starting will be in order directly. Here are the things you need for it: seeds, flats, prepared soil, a fine-spray watering can, and of course a suitable place in which to start them.

Making a New Home from an Old House

(*Continued from page* 108)

lawn-mower in a way that must be torture to it. When I come out from breakfast I am greeted with a grieved expression and: "Dees' a lawn-mo', no good!" Then I have to adjust it anew, and call down all

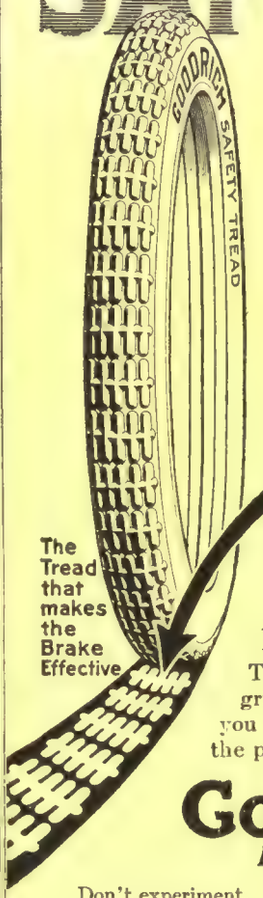
sorts of destruction on him if he "fix" it again! D. bought another lawn-mower last month; told the salesman to give her the best he had, for perhaps they were right, after all, and there was something the matter; but next day I grinned as the same complaint arose.

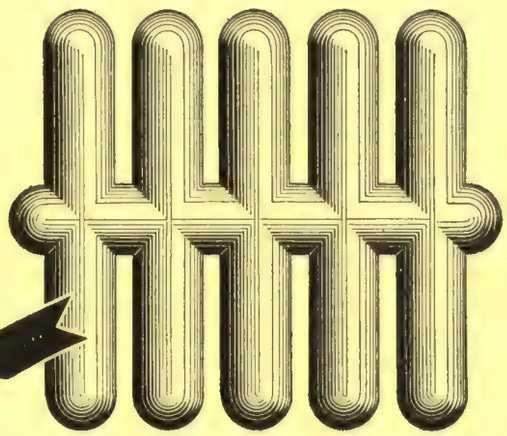
The grass walk is the latest of our creations. It follows the line of an old drive to the barn, abandoned when the road in front was lowered and the drive made inaccessible. Grass grows readily in the thin earth over the ashes and oyster shells that formed the roadbed; now it is one of the more attractive parts of the place. The great lilac hedge borders it closely on the west; on the east is a bed of perennials a hundred feet long or so, with the turf slope up to the tennis court beyond. The barn is at the farther end, with twin Lombardy poplars and a mass of vines. Against it is a garden seat we built of three discarded doors. It shows in one of the photographs. One door was cut in half and forms the ends; another the back, and the third the seat. Triangular holes were sawed in the back somewhat like the Roman baluster-motive: the seat was sloped slightly backward to shed the rain-water, and braced so as not to sag in the middle, and the several parts permanently fastened together with long screws.

Half way down the walk is a maple, underneath which we used to dine *al fresco*. The lower end loses itself in the projecting overgrowth of the lilac hedge and the irregular slopes about the foot of a great spruce tree, where the small birds gather during their spring migration. One is tempted to lie late abed in the nearby room and analyze the various calls and songs. Some morning late in March one will be awakened by a flock of grackles; later a kinglet will come, perhaps, with his rare northern song; in May the warbler-wave, the black-and-white, myrtle, black-throated-green, blackpoll, redstart, and I have seen the "Hibernian" warbler, as D. calls it, with its orange throat, and the magnolia there. The tree is altogether too near one's bedroom windows! A chance contemplation of the black and white and vivid rose of a grosbeak against its somber green is altogether too seductive.

There is a sentimental side, too, a quality in a bird's song reminiscent of some previous time one has heard it. I know certain bird-songs will always be associated with this place to me. A bluebird's song brings back the delicious early morning when D. and I plotted out the drive, with the warm sunshine and the purples and vivid greens of late April; the cowbird's call, the half-formed garden, stretched string and packages of seeds, with the children planting a miniature garden, crookeder than ours! But above all, the oriole and the monotonous yellow-throated vireo will be ever associated with summer in her various phases on that upland lawn of ours, with the heavy odor of locust blossoms, or the dense leafage of the maples.

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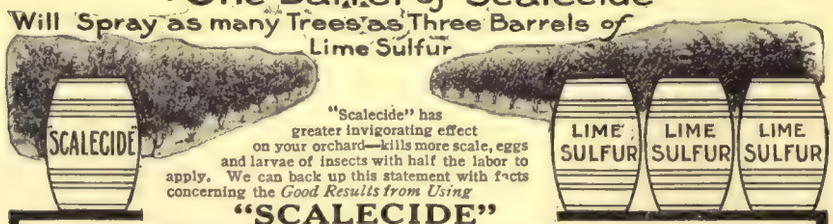


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Scheming the Year's Gardening

(*Continued from page* 113)

dot indicating the first stake; indicate the second stake with a dot (do not number this, however), and so on until each one is given its location on the paper. Then connect these dots, and you have the first contour, labeled at its left end "5" to identify it as 5 feet above the low level. In other words, you have the *plan* view of the line which water would leave on your slopes if it rose to a depth of 5 feet over your lowest spot or area.

Move up now with your T-square pole to the near stake directly in front of you, and remain here for station point 2. Do exactly what you did before, put it down on your map, connect the dots, label the line at the left end of it "10" to indicate that it is 10 feet above the lowest level; and then move up again to the near stake for station point 3—and so on until the ground is all worked.

The plane table method is, of course, exactly the same principle, the table itself being used to sight over. It is more conveniently used for 3 or 4 foot contours than for 5, for the reason that it is the drawing board which carries your map—and a height of 5 feet is awkward for drawing upon it. A plane table requires a little more constructive work than the T-square outfit, but it is less likely to admit of small errors, through being more stable. Any draughting board will serve, mounted on an ordinary camera tripod, the board being of any size convenient to hold the drawing you are making of the land. Its surface must be brought to the determined height each time it is moved up by having this height indicated on a measuring pole and setting it by this; and its level is secured positively by means of a cheap small hand level laid on its surface.

Whatever size and shape and conformation your land may have, be sure that some one place on it is the best place for the house. This is true of even the ordinary rectangular suburban plot. Aim to find out this best place, therefore, and set the house upon it; and then make the house plan and the exterior conform to the natural requirements of this situation as well as to your own needs and convenience. This is the sort of planning that results in a home of individuality, interest and charm; and if it were more generally followed we should come sooner to the "national style" of architecture which it is our constant reproach that we lack.

Consider the land in its relation to the house, and the house in its relation to the land; never divorce them for an instant, if you do not wish to lose that lovely harmony which is chief among the attributes of all beautiful, and therefore successful, gardens. On the contrary, aim to bring the two into closer and ever closer relation, to unite them more firmly, to bind them up together until they are one. How is this to be done? What shall be planted to accomplish it, do you ask?

It is a question very much further back than planting; that is just the point. It is something accomplished only by the extension into the garden of what, for want of a better name, I must call the "lead" of the house. But this does not mean carrying architectural features into the garden, nor extending the lines of the house by means of garden features, as might at first seem. Rather, it means finding, if you do not already know, the various "house centers" and relating the garden to them directly—and so relating it directly to the very best heart of the house. This, which I have called "house center," is architecturally known by the term "axis;" so it is the house axis or axes which must be found—a leading axis, followed by as many that are secondary as the situation, developing, will reveal.

An axis is, of course, the line upon which a design balances. It may run the entire length of the house if the building is symmetrically laid out, or it may be confined to a doorway and its small portico, if irregularity prevails in the design. On page 113 is shown the regular rectangular form which some houses assume, with its two principal axes—the longitudinal and the transverse. Another diagram shows a form of great irregularity, with some of the axes which might be selected for use in developing this principle of unity between the building and its setting.

The choice of the really important one, or ones, for the foundation of the garden design is very necessary; and to this end bear in mind that it is not always the axis of the main bulk of the building that is important, out of doors. Assuming, for instance, that B is the main entrance to the house, and that A is an overhanging window or a flight of steps, or some such feature; the latter would be of greater importance to the garden design because a main entrance is, invariably, to be treated as something separate and distinct from the rest of the gardens. It is a little motif of independent purpose and demands. Or, assuming that E is a broad terrace axis and D a drawing-room or living-room axial line, E might, and usually would, take precedence over D, because it is already outdoors, on its way to the garden, so to speak. A group of windows, a doorway, or any number of the lesser architectural features, may afford centers, or axes, where the main lines of the ground plan will not reveal them. Choose the one rising from the feature most important architecturally for extension into, and domination over, the garden plan. The lesser may be emphasized with lesser garden features, perhaps, or may be ignored altogether, according to the general circumstances and requirements of the design. This is one of the things which the individual designer must decide for himself.

Proceeding to actual garden design, with the two diagrams already given as illustrations, we find that the axes of the



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When the glass loosens and slips down and some of your choicest orchids freeze, you look at the roof and wonder if it's right or not.

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first house, extended, will divide the plot whereon it stands into four sections of different size. We are, of course, at liberty to eliminate any one of these extensions, however, or two, or even three, of them, confining ourselves to the remaining. Here again is something for special consideration and individual decision.

One of the important things which it may be well to take note of right here is the fact that the gardens as a whole need not, and usually never will, balance on these extensions of the house axes. They may, of course; but it is a matter entirely of convenience and taste—and sometimes of chance—whether or no they will. If we suppose some feature at the extreme boundary centered on the axis A (page 112), for example, with the connection of either a long strip of greensward, a walk or anything else it might be possible to think of as such connection, the divisions on either side of this axis may be treated in any preferred fashion and still never interrupt the unity of the building with the gardens. This unity will indeed be preserved, even supposing the entire space on both sides the axial line to be an irregular parklike expanse of lawn, shrubbery bounded, with trees at varying, natural intervals planted upon it.

The unity may be weakened, however, by such treatment as this last; and instead of quite the same distant alignment, I should bring the unifying axial motif up close to the house. In preparation for a broad, sweeping lawn treatment, change it to some simple thing like a flight of steps descending from an open terrace, which should run the length of the building, or to a sun-dial court or some similar definitely formal feature, complementing the house lines and form; and then from this let the lawn sweep away to the boundaries of the place—these, of course, always being enclosed with planting and with a wall or fence outside of this, on the actual lot line.

Nothing in the world is more lovely than such a sweep of lawn, lying partly in the sunlight and partly in the shade of fine trees, where it actually *is* a "sweep;" but I grow more and more certain with every problem that I meet, that to attempt this sort of thing with the average suburban place is one of the greatest mistakes that can be made. For suburban limitations give the lie to all such assertions of rural splendor; and truly suburban ideals offer, I believe, something much better for the suburbs. Why sacrifice, therefore, that which can be had in the suburbs for that which obviously cannot? Why have no real garden just for the sake of attempting to create an illusion of space—of attempting to cheat, in other words, and to seem to have that which is not? I say "attempting" advisedly, for the effort is never successful; no one is ever deceived into believing that 100 by 100 feet comprises a landscape.

On the other hand, why not have that which may so easily be had? Why not

have gardens instead of imitation landscapes, and get something for the work done—either flowers or vegetables or beauty of form and line, or all three put together? Why forego the one thing that is possible and reasonable and honest and good, artistically as well as economically and ethically, for the thing that is impossible and unreasonable and dishonest and bad, in all three of these ways?

So unless this house which is furnishing the first example of garden design stands in the midst of at least an acre of land—preferably more—eliminate lawn expanses from its setting. Emerald turf there shall be, plenty of it; but not in park-like sweeps, if you please. According to the convenience of its occupants, let its sections be given up to a fruit garden, a flower garden, a vegetable garden, a tennis court, a water garden, a winter garden, or to anything else, indeed, that is preferred; or any combination that meets the taste and suits the fancy. Or discard all of these for only lawn if you please, with trees and shrubs; but let these be martialed and arranged according to design, and conform to the lines which, I must ever insist, suburban limitations cannot avoid imposing.

These lines are formal inevitably—but please note that they are *not symmetrical,* of necessity. Here is a great distinction and difference; and I hope it may hearten those whom dislike of the formal garden, as popularly conceived, has made antagonistic to the principles and claims just set forth. A garden that is truly formal *in that it is characterized by form and order,* may yet be much richer in the unexpected than the most literal imitation of nature-like scenes, and may have quite as varying features and vistas, if indeed it have not more.

It is formal in this sense that I should like to see the gardens of all small places; and by small I mean anything up to the acre aforementioned. Such formality will bring more variation and individuality into suburbs generally than present conditions allow us to conceive as possible; for such formality means gardens differing to the same degree that the houses which they complement and adorn differ, instead of a monotonous similarity of grounds everywhere.

There is one thing of great importance remaining to be considered—of great importance whatever size a place may be. This is the orientation of the dwelling, and of its attendant gardens. All too commonly builders consider this not at all—and an owner only too late; and so houses arbitrarily "point" in the direction which the street's direction has decided for them, and kitchens and service portions face the sun and the attractive views, while porches and living-rooms must look out towards the "front," whatever of ugliness lies in that direction, and be denied sun and breeze and all the advantages which lie in properly considering the compass and the elements.



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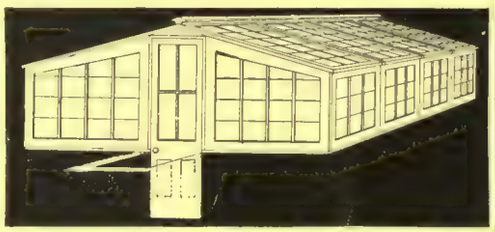
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There are, of course, prevailing winter and summer winds which must be learned in any given section; usually they are northeast in winter and southwest in summer, but not always. But the sun is the same everywhere, and the building which is to receive the maximum amount of sunlight throughout the year must stand in the same position in every part of the temperate zone. This position is a direction turned as far as possible—otherwise 45 degrees—from the cardinal points; that is, its walls must form angles of 45 degrees with the lines running exactly north-south and east-west. As this position changes to one which brings the walls of the building parallel with these cardinal lines, the sunlight diminishes on the north walls always; and although midsummer will bring slanting rays athwart this side in early morning and late afternoon, rooms with northern exposure can hardly be said to "get the sun" at any season of the year.

It is evident, therefore, that the oblique position is the most desirable, for the greatest amount of sunlight possible for every room should be the aim. Which rooms are to receive it all the time and which are to take the positions least exposed to it, are questions that remain to be decided, however; and these wait upon the direction of the prevailing winds. Never put a kitchen on the side of the summer breezes. Keep it on the hot side of the house—but set it off enough so that its windows may receive these same summer breezes. And never put halls or passages or closets or stairways on this summer-breeze side; plan to have it open—wide open—so that never a passing breath of air shall be lost.

Nearly always this side of the house will be one of the sunny sides as well, consequently deep, shaded porches or shade outside in the form of arbors or high-branched trees must temper the heat. Look to this provision of shade, however, after you have secured the exposure that is best for everything else; it is always easily accomplished.

Of course, for gardens in their major portions there must be sunlight rather than shadow; so the house should never obscure them, if it is possible to have it avoid doing so. Sometimes these various requirements of house and garden may conflict, but this is not usual. Indeed, it is more often quite astonishing to see how beautifully they all fit together, and how a complete layout emerges from the potentialities of blank paper almost of itself, when one sets to work. For the other sort of problem when it does arise, however, the designer must, of course, choose the things which are to be sacrificed for the sake of the others which are his preference. The arrangement of the house for comfort and the garden's proper exposure are more important, to my mind, than that the building should have sunlight on all four sides—for its plan may be adjusted to this condition so that it

shall lack nothing from either the hygienic or artistic standpoint, even when so placed. And of these two, comfort indoors ranks higher than the garden's requirements—for some kind of garden is possible in every kind of exposure.

With the garden designed, the work of arranging the planting is already partially done—for the design will make demands of its own which must be met. Beyond these demands, each garden maker is free to choose according to his preferences, of course; but there is one thing to be said that may help in guiding the choice.

It is this: the number of kinds of things which any garden will contain is limited—but the number of kinds to which the new and enthusiastic gardener aspires apparently knows no limit. This is natural enough on the part of the gardener, perhaps, this desire to grow everything—in one small area—that he has ever seen or heard of or read about; but it is utterly demoralizing to good planting. Many kinds together do not produce effective results whether they be trees or shrubs or flowers in a border. Cut down your choice in all three of these materials, therefore, to the least number of kinds that will provide the effect you wish.

This effect is usually twofold with shrubbery—the mass of green either as screen or boundary, and flowers during the longest possible period. With trees, shade is the principal thing required, although trees may also furnish boundary or screen mass, color effects, winter warmth and protection—and, to a certain degree, flowers. But flowers alone furnish just themselves—and we are satisfied unless they fail to do this perpetually and in the greatest abundance. Each kind blooms only its season, however, and passes; so of flowers as of shrubs, we must allow the garden enough kinds to carry on the "bloom procession" all through the summer.

This means, however, only about fifteen species—or a less number of species perhaps, but this number of varieties, thus securing plants which do not blossom together. This is the least number that will give an uninterrupted abundance of flowers from early spring until late fall, after frost; so no less than this number should be allotted to any garden, unless it is to be permitted a gap. Of these fifteen varieties, however, there may be just as many plants as the garden will hold. By dozens and scores and hundreds they may be multiplied and massed, until the effect is one of bewildering luxuriance. Many of each kind in uninterrupted mass, but more of the choicest kinds than of the ones you care the least for, is a good rule, whether it is a single border beside a walk that you are planting or a garden of many borders and beds. It is always the great color *masses* that produce the "breathless" effects; get as many of these, therefore, distributed throughout the summer as your garden space will allow; and give up the few plants of this and that and the



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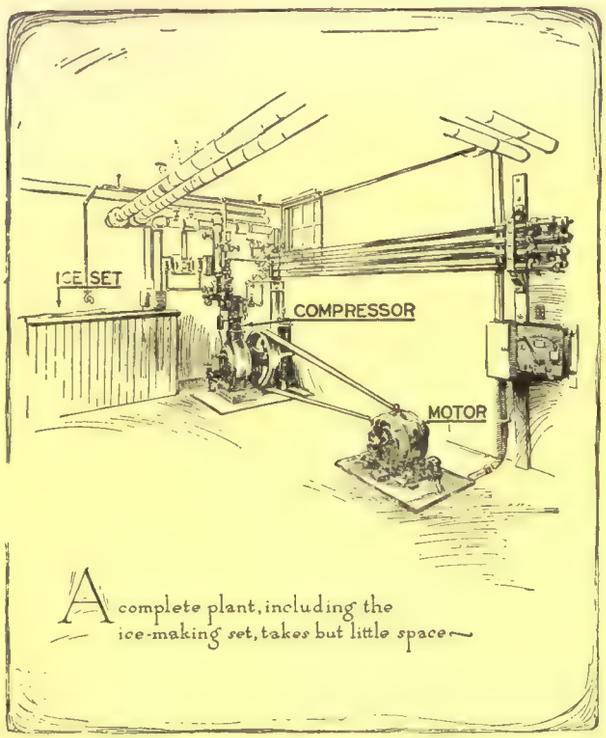
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other. Interesting they all are, of course, and beautiful they may be; but mass is what counts, not broken fragments, however lovely these may be in themselves.

Keep all the garden design in a few masses also, rather than allowing it to divide into small parts. Keep shrubbery in massed groups, along boundaries. Limit the varieties of trees used to one, or at most two, to a group of, let us say, five specimens; and group these to form a mass of green, and a mass of cool and tempting shade. And leave large, open masses of pure sunlight.

The Dorothy Quincy House

(*Continued from page* 101)

sparks from flying into the room. The wooden settle at one side depicts the kind used by the first settlers in our country. Note the wide, rough brick hearth. In the early days, Sir Harry Frankland and Agnes Surriage came here to visit Madam Hancock. They fished in the brook, sometimes known as Furnace Brook, cooking their catch on the fire that blazed over the old-time hearth. In this kitchen also gathered the Rev. John Wheelright, Anne Hutchinson and many others of the little colony that settled near. They discussed the religious problems of the day, and Wheelright preached to his little congregation in this room until his church was built. His sermons were so liberal that he and his coterie of friends were banished, fleeing to Rhode Island.

A great oven is at one side of this room, while opposite is a secret closet which leads to a ladder back of the chimney. From here one could go to the chamber above. An odd, little dumbwaiter shaft tells us how food and water was sent to the refugees in hiding. Many years ago an underground passage led from the kitchen to the brook. It was used to smuggle contraband goods. The entrance has been blocked and its whereabouts is not known to-day.

At one side of this room stands a fitting piece of furniture. It is an old chest that originally belonged to the brother of William Penn. The kitchen utensils displayed about the hearth are relics of the Revolutionary period, and are properly placed for the old house remodeled.

A staircase at one side leads to the Coddington Chamber, named so for the original owner of the house. It is low in stud, the better to accommodate the secret room above. The same rough-hewn beams are found here that are shown in the lower story. The plain floor is laid with the original planks. On the Field bedsteads is the most interesting counterpane, hand worked in the very elaborate design. Other furniture is quite in harmony with the graceful lines of the bed-posts, and the chairs especially are appropriate for a bedroom. They are of that variety known as the American Sheraton, and are really a

simplification of some Sheraton designs. These, with the chairs appearing in the other bedrooms, indicate the number of varieties of forms available for the present-day householder who furnishes along the Colonial precedent. Such chairs as are in this room are being reproduced to-day, either in the mahogany form or the black lacquer type.

Some relics of the time when the house was occupied appear in the Franklin stove which was presented by its famous inventor after he visited the house, and a cup and saucer once used by Daniel Webster.

Directly across the hall from the Coddington Chamber is the nursery. Tradition relates that, fleeing from the British, John Hancock took refuge in this apartment. Be this as it may, we find scratched with a diamond on a pane of glass the initials J. H.; on another, in similar writing, "You I love, and you alone." Among the pieces of furniture is a linen chest once owned by the wife of William Penn, and a breakfast table of John Hancock. Madam Burr embroidered the bedspread on homespun linen and quilted it with her own hands. It was formerly used in her guest chamber during Dorothy Quincy's enforced stay in the house.

The most interesting room in the house is where many of the Quincy children were born. The old Field bedstead has hangings of genuine old chintz, while the bedspread is homespun and in a most original design. The furniture here consists mainly of the tall ladder-backed, rush-bottomed chairs. That by the fireplace is an interesting type, a development of the late seventeenth century, showing Chinese influence, and is a lacquered wood in imitation of bamboo.

In the furnishing of all the bedrooms the wall papers are particularly well chosen. That in this room shows the grouping of flower motives in disjointed islands, where the detail is massed. This was common to the printed papers and chintzes of the middle of the eighteenth century. Flower motives and bird motives were particularly prominent. As the century drew to a close, the massing of these details became separated, and the papers looked as though sprays of flowers or leaves in serpentine designs were allowed to run wild upon the walls. The paper in the bachelors' bedroom is a fair representation of this style. The little figured patterns in the Dorothy Quincy bedroom are found in reproduction quite commonly here to-day, and rightly suggest Georgian days.

One of the most important rooms in the house is the guest, or bridal, chamber. This is over the parlor, and was slept in by Washington, Benjamin Franklin, Sir Harry Frankland, and in later days by Gen. Grant. The bed which is now in the room was built for the use of Lafayette. Under the four-poster is a little trundle-bed that was used by the children after they had graduated from the cradle. This could be pulled out at night and hidden during the daytime. The Windsor and

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painted chairs are found in the furnishing of this room. The casing of the beams and the woodwork both tell that it was added at a much later period than the original house was built.

Few houses have been restored with so much careful thought as has this. It extends not only to wall hangings, many of which are reproductions, but to the wainscot and the curtains. The latter, while not of Colonial material, show the soft coloring that was in vogue at that time. The bare floors show the original boards. They are not covered by modern rugs that would distort periods, but by single rag mats that lend themselves to correct lines. Every attempt has been made to banish inharmonious details with effect resulting. If we are reproducing the Colonial spirit we could do no better than follow the suggestions contained in this house. It is useless to look for furniture all the work of design of one maker, for in the Colonial period, when houses were a part of the family, there must have been a collection from various sources. It is, therefore, natural to see a variety of designs, but they are here chosen to represent exactly what the house of early American Colonial times looked like.

The garden is not an important feature of the grounds. It is simple and unassuming. Here are planted such flowers as were in vogue in our grandmothers' day. The estate has kept all the original details save the merry brook that originally sang as it danced over its stony bed. This has been dammed, and is but a semblance of what it originally was. No more could Sir Harry Frankland and his merry party fish here, as in the days of yore. The old house must have rung with laughter and merriment in those days, when parties coming in coaches and on horseback from Boston assembled here. Dorothy Q. was a favorite with them all, and little wonder was it that in after life there was about her an air of arrogance and a touch of a coquette.

The Garden Club

(*Continued from page* 110)

it, up through the scale of life, to ourselves; dust we are, indeed, veritably. The great mountains yonder grew small to me as I dreamed over it, and the tiny mountains of the garden grew great—and I began to see that great and small are words which we use rather indiscriminately, and not very intelligently.

And I came into the house, in the dusk, glad that we have the Garden Club.

Crops of Quality for the Home Garden

(*Continued from page* 117)

As the quality of lettuce depends upon a luxurious and rapid growth, the ground should always be made as rich and mellow as possible for it. The early spring crops, both in the frames and outdoors, are started in flats and transplanted once be-

fore being set in their permanent positions. The summer outdoor crops are usually sowed very thinly in rows and then thinned out to three or four inches apart as soon as the plants obtain several true leaves. Then, by thinning again as soon as some of the plants are large enough to use, they will be left at about the proper distance to mature. Lettuce seed sown in very hot weather should be sheltered if possible for a while until it is well up. Irrigation where it can be given will be of the greatest advantage in growing lettuce through the summer months.

The crops to be grown in the frames for late fall and winter use should be transplanted twice, so that good, strong, stocky plants are obtained to set in the permanent bed, and the latter should be made thoroughly fine and rich, but with fresh soil—that is, soil in which lettuce has not been grown for a year or so previously. A very close watch must be kept for the green aphis, which is the most troublesome pest in growing lettuce under glass. It is combated by sprinkling tobacco stems or dust freely upon the soil between the plants, as a preventative, and by fumigating or spraying with a nicotine preparation as soon as the first signs of this insidious enemy are seen.

Care in watering and ventilation is also very necessary to avoid the stem rot, or "black rot," which usually spoils the whole bed if allowed to get a start. The head varieties are much more subject to it than the loose-leaved sorts, like Grand Rapids, which is the most reliable variety I have used for midwinter growing. The bed should be thoroughly wet down before the plants are set out. In case of bright, sunshiny weather they should be shaded for two or three days during the middle of the day after being set. About eight inches apart each way is right, though the Grand Rapids may be set a little closer, as the plants force each other in an upright position in growing, and blanch each other into a very tender and brittle condition.

Waterings, which will be needed very infrequently during the winter, should be given only on the mornings of bright, sunny days, with care to get as little of it as possible on the foliage. The safest rule for ventilation during the spring—and fall and winter, too, for that matter—is to give all the air possible, while keeping the temperature sufficiently high. During the cold weather it is best to ventilate during the forenoon, so that the sash can be closed as soon as the temperature begins to drop in the afternoon.

Besides lettuce, there are a number of other plants used for salad, the most important of which are celery, endive and escarole, and corn-salad, whitloff (chickory) and pepper grass. Celery is the only one of these which can be said to be a universal favorite. Whitloff probably will be, after it becomes better known, and, as it offers the means of having fresh salad during the winter months, for those who have not the means or the inclination to



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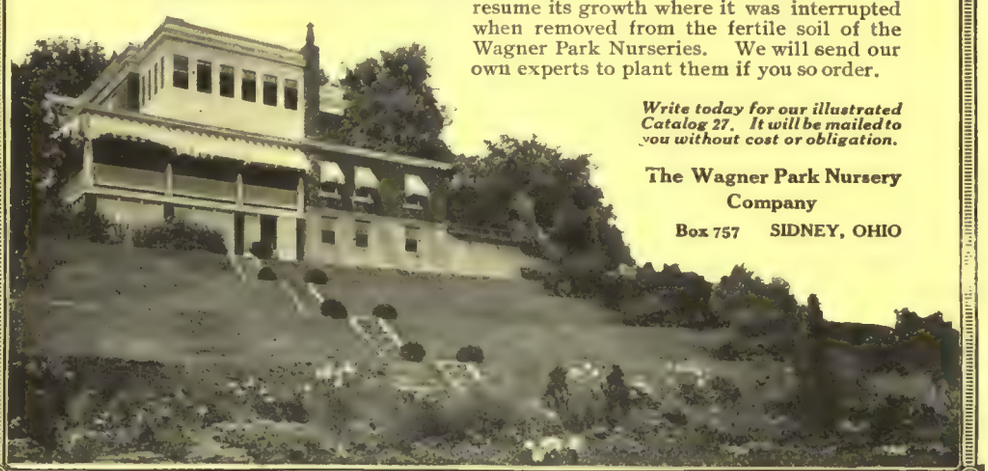
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operate a hotbed, it will undoubtedly become widely used.

Very little space will be required to grow a home supply of celery in a condition to last through the fall and into the midwinter months. Celery is unlike the other salads, in that it requires a very long season to mature. So you must get an early start with it, especially if you want some for use during the early fall, September and October. White Plume, Silver Plume and Golden Self Blanching, Paris Golden, are the sorts to use for this first sowing, which should be made in flats the latter part of February or the first part of March. The soil should be very light and the seed barely covered from sight. If it is soaked in quite warm water for twenty-four, or even forty-eight hours, before planting, germination will be hastened. It is also a good plan to place an inch or so of rich compost at the bottom of the seed boxes, as the seedlings will remain a good deal longer before they need to be transplanted than those of most other vegetables, such as cabbage and lettuce.

At all stages of growth, celery requires an abundance of water. The best way to soak a flat of seedlings thoroughly is to immerse it partly in a tub or sink and let the water soak up into the soil from below until the moisture shows upon the top. The seedlings are very small and frail, and as they begin to crowd each other easily become "lodged" from watering with the watering can or hose, and are then pretty sure to damp off. When they become two or three inches tall they should be clipped over with the shears and cut back about a third or more. Then, if they are not crowding each other, they can be left a week or two more before being transplanted. But they must be got out of the seed boxes before they become weak and spindling. They may be transplanted into other flats or into the open ground, and set in rows six or eight inches apart and two inches or so apart in the row; then they will make strong, stocky plants before being set out in their permanent position, for which they will be ready during the latter part of July.

They prefer a moist soil, but can be grown in any ordinary garden soil, if water can be given during the dry spells of midsummer. The ground should be made very rich, and special fertilization should be given in the row in which the plants are to be set to give them a good start. Leaves and roots should be trimmed back at each transplanting.

The plants are usually set out six inches apart in rows which are three or four feet apart, and, after being well cultivated and cared for for three or four weeks, the leaves are gathered up into an upright position and held so either by drawing an ordinary string about the stalks or by setting boards up on each side of the row. In doing this, care must be taken not to get any soil into the heart of the stalk. That wanted for early use is blanched in rows by banking it up with earth, or with boards

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about a foot wide. The former method usually gives the most crisp and best-flavored celery, and can be easily employed in the home patch.

Seed for the main part of the crop for fall and winter use should be sown early in April. Two of the best varieties for this planting are Big Queen and Boston Market. They are of excellent quality and much easier to blanch than the old tall-growing sorts, such as Giant Pascal. If the weather permits, seeds for this crop may be sown outdoors directly in the seed bed, instead of in flats. But they should be transplanted once before being set into the garden. It is well in transplanting, of course, in case the celery has to be done in hot, dry weather, to plant just after a rain or on a cloudy day or late in the afternoon. If water has to be used, pour it into the holes before setting the plants, half a pint or so to each one, and shade them from the direct midday sun for a few days with newspapers or a few old boards. The plants can then be taken care of in just the same way as the early crop, except that they are banked up just enough to hold them in a straight upright position, as the blanching process is finished when they are put into storage. For the portion to be kept over winter provide boxes about a foot wide and nearly as deep as the celery is high. Cover the bottoms of these boxes with two or three inches of sand and wet thoroughly. Upon this, stand the celery upright and packed close together. In taking up the celery for storing in this way, the roots and whatever earth adheres to them are kept on, not cut, as if bought in the stores. The boxes are then stored in a cellar or other dark, dry, cold place where the temperature will not go more than five degrees below freezing. The celery will be ready for use after Christmas. If a long succession is wanted, store from the open two or three different times, say at the end of October, first part of November, and the latter part of November.

Whitloff, a variety of chickory, is coming into favor where it is tried. It is sown in drills, eighteen inches or more apart, and thinned to six inches or so between the plants. In August or early September, earth up, as with early celery, to blanch the stalks, which can be used as salad or boiled. The full-grown roots, taken up just before freezing weather, trimmed back, and planted in boxes of sand, and then placed as needed in a moderately warm, dark place and watered, will send up rapidly a growth of tender leaves which make excellent salad.

Endive is at its best when grown for fall use, but even then, to most people's taste, it is not equal to good lettuce. It is sown in late June or July in drills eighteen to twenty-four inches apart, and later thinned to ten or twelve inches. It requires blanching, which is done by tying up each head in a loose bunch with raffia, or covering with wide boards placed in an inverted V over the rows.

"Pepper grass," or upland cress, makes



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a spicy, agreeable little salad plant, and the first to be ready in the spring from outdoor sowing. Plant in drills twelve or fifteen inches apart as early as possible. Sow only a small quantity at a time, and sow frequently if a continuous supply is desired, as it matures and goes to seed very quickly. A good plan is to make a small sowing with each planting of radishes you put in.

Adventures in Bird Land

(*Continued from page* 94)

bird to show her how patient and gentle and friendly I am?"

"You can't from this craft. Other boats that looked like this to the birds have preceded us carrying the black flag. We will anchor at the head of the river just above here, and you shall come back in canoe or skiff every hour of every day if you wish."

Soon our bow rested on the edge of the Everglades, and we looked out upon the clear little streams that fed the river, and over the submerged flowery meadows dotted with tiny keys of myrtle, sweet bay and cocoa plums.

"Do birds live on those wonderful fields of flowers?"

"Not many, Marion, though you will find a few floating nests cunningly anchored to the grass, and you may see the mother birds scurrying away; but the real food for your camera is hidden in thickets, on trees, in bonnet-covered bayous and lily-padded ponds."

"Can't we go for them now?" asked the girl, and my reply was to get out the little forty-pound canoe and give her the place in the bow to which she was accustomed, but this time with a camera instead of a paddle in her hands. Our progress was as silent as the falling of the snow outside of my window as I write, and our course led among cat tail flags and long grasses and through deep water channels that made islands of many acres of the river bank. The cat family is fond of squabs, but it doesn't like to wet its feet, and the birds built their nests where these channels protected them from panther and lynx, as the moat protects the castle. As we approached an island of nest-burdened trees the air was filled with flying birds and burdened with their cries of alarm. There were nests by the hundred, many containing eggs, and others birds too young to scramble and get away. The girl photographed a nest containing two fluffy white birds and one egg unhatched.

"What are these?" she asked, and when told they were little blue herons, observed:

"I ought to have remembered that when they look white they must be black or blue, or both."

"See that black water turkey that has stayed on her nest? There may be some white children there, or perhaps she will wait to have her own picture taken."

Slowly as I turned the canoe the bird divined my purpose and abandoned her nest, which contained only eggs, but nest and eggs were duly photographed. Many

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young birds which were yet weak of wing had fled from their home nests and were fluttering from tree to tree or making slow progress on the marshy ground.

"Why can't I catch those birds and make them pose? I don't mind mud."

"Because if you got stuck in the swamp you would have to stay there. I wouldn't dare take you back to your Aunt Lucy in the condition you would be."

Upon this the child assumed her most effective expression of unhappiness and I hastened to cheer her by saying:

"To-morrow we will bring Harrison and the skiff. That boy is a dabster with birds. He will chase them across marshes and follow them up trees. He will catch them and hoodoo them and make them pose for you, dozens of them, and he will tell you what they say"—and the smile came back.

Slowly and shyly the birds came home to their nests and their young. Slowly and silently I paddled nearer until some uneasiness presaged another flight. I passed down the half mile of nests, finding that some wireless message of good will had preceded me, for I came within ten yards of birds which the day before had fled from my approach at twenty times that distance. The girl tried no more camera shots, although often tempted, for she felt that better opportunities were assured. She woke us up at daybreak in her haste to get busy with her birds, and had to listen to a lecture on the actinic value of the light at that hour. Yet it was a red letter day for the girl, for Harrison followed us in a skiff, and he chased the feathered children as they fled and caught two white ibis that were brown, and petted and scolded them until they posed on his arm for their pictures. Then the boy caught a night heron, or squawk, and holding it at arm's length scolded it until the squawk squawked back in fury.

"What is it saying?" asked Marion.

"She's tellin' me what her ma's goin' to do to me when she ketches me," was Harrison's reply.

Harrison was out early the next morning with a net, and had a pocket full of minnows and frogs ready for the bird campaign. When the old birds flew from their nests the girl filled the gaping mouths of the young with minnows or frogs until the little ones thought she was their mother, and after a time the old birds thought so, too, and talked as freely to her as if they were settlement workers instructing an East Side mother.

As the days rolled on we were all *personæ gratæ* to the colony, and in the part of the rookery which we most frequented our daily visit caused some excitement but no alarm. The boy liked to bring together different species of birds and cultivate race hatred. He once promoted a debate between two blues and a water turkey which would have been a credit to a political convention. Marion had learned enough of their language to translate the speeches to me, and astonished me with the familiarity of these birds with modern school slang.

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King Garden Frames

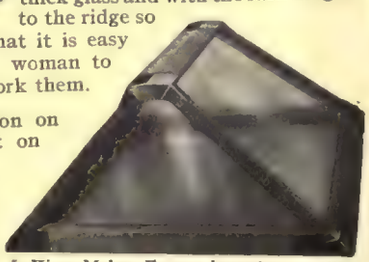


Are not boxes with glass covers. There is practically no wood in them. Top and sides are glass so that the plants get every bit of the light. The large illustration shows one of our double glazed sash. The air space between the layers of glass serves as a blanket.

We can furnish single glazed sash too.

Ask about the King Jr. at $15.00.

Top and sides glazed with double thick glass and with the sash hinged to the ridge so that it is easy for any woman to handle and work them.



Our Bulletin No. 42 full of interesting information on Garden Frames and their use, will be gladly sent on request.

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Makers of King Channel Bar Greenhouses

5 King Melon Frames complete as illustrated. Size 24½ x 24 inches will be sent, freight prepaid, on receipt of $7.50.



Ball-Room *of the*
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(Architects, Hewitt, Granger & Paist)
in which
Bay State Brick *and* **Cement Coating**

was used to bring out the architectural beauties of the room as well as lighten it. For this coating **"Lights like the Sun"** and enhances the beauty of the most beautiful architecture. It becomes a part of the cement, stucco or plaster itself, prevents cracking from moisture and retards fire. Write at once for booklet L.

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A handful of **Wal-cal-ine** rubbed lightly over the soiled places will remove **dirt, streaks, soot and smudges** from the most delicately tinted surfaces without the slightest discoloration. It is **absolutely harmless** and cleans like a soft eraser, without disorder or mess.

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Start Your Hot Beds NOW!

Don't miss the profit and pleasure of raising early vegetables and flowers in hot beds. **Get busy!** We offer the best Cypress Hot Bed Sash in America at bargain prices.

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There is a fascination in broad flights of steps flanked with well proportioned balustrading. They lend an air of dignity that is almost regal to the formal garden. They are a necessary element of ornamentation on any carefully planned private estate.

We have designed and erected much of the balustrading to be found in notable formal gardens. Our collection of 1,500 models of garden ornament and statuary is the largest in this country. Subjects may be used individually in small gardens or in harmonious groups for larger places. Our handsomely illustrated catalogue showing many of these models sent on request.



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Astoria, L. I.

THE ERKINS STUDIOS

226 Lexington Ave.
New York

THE LARGEST MANUFACTURERS OF ORNAMENTAL STONE

Two limpkins, as I called them, although they had four other names to choose from, used to wade out on the grass of the Glades, where the canoe could not follow them. Marion waded after the birds for an hour, going less than a hundred yards from the canoe when she secured the picture she sought. Often I was her accomplice and once posed with a colored curlew on my hand while its white ibis mother sat by awaiting her turn.

When the time came to leave, the girl begged for another day with her pets, and I promised to give her a day on our way home from Cape Sable, where I wanted to spend a few days looking for a small rookery which I feared had been ruined. That fear was realized, but near Man-o'-War Bush I gave Marion a chance to photograph some young of the fast-disappearing great American egret and of the big blue heron. We had no time to tame these birds, but managed to take their pictures without it. Chasing them soon tired them out, and then they would cling to anything on which they were placed—old snag, gunwale of boat or canoe, or a harpoon pole. It was upon this latter that I most frequently placed them, and then holding it upon the water, allowed it to sink a few inches below the surface, when a slight turn of the hand that held the pole would cause the bird to spread his wings in the most picturesque manner in the effort to balance himself. When our time limit was reached, leaving only a day to spend with our friends of the bird colony, we started north. As we passed up the river it seemed to me that an unusual number of birds were flying aimlessly about, but I attached no significance to this until, as we approached the rookery, so few birds were to be seen that it was apparent that it had been practically abandoned. Gone were our little friends. Not a welcoming *"Qua, qua,"* or a scolding *"Squawk."* Beneath the trees and often under the home nests were the mangled bodies of our bird friends. There were young birds yet alive in some of the nests, and others wading in the swamp, but not old enough to find food for themselves. If they had been fewer and less scattered I would have put the dying birds out of their misery. Then there was the chance that some of the mother birds would come back and the possibility that such as did return would care for some of the orphans as well as for their own broods. Such humanity has been claimed for these birds and I trust it is true, though I have never found evidence to support the claim.

When the order for the boat to head down stream was given, Marion asked that she might first be taken to the home of her special pet, the nest where she fed the little brood and afterwards photographed the white ibis mother which from a nearby branch had talked to her while she fed the bird babies. I paddled the canoe through the familiar channels with many misgivings, but the end was worse than I could have dreamed. For the little ones lay dead



Fairfax Roses Bloom Quickly

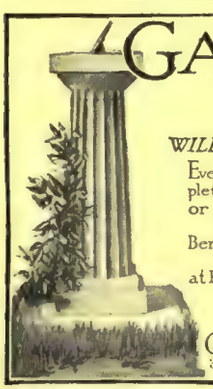
They give an abundance of beautiful flowers in the home garden because they are vigorous, thrifty and sturdy, grown slowly and wintered out of doors. Roses made to grow fast with excessive greenhouse heat do not bloom so early or so well.

Fertile clay loam, constant cultivation, and a long growing season give Fairfax Roses vigorous roots and stocky branches. Cold weather comes gradually, ripening the wood slowly. Ice and snow prove the hardiness of the plants. Fairfax Roses, wintered out of doors, have rugged constitutions.

My 1914 Fairfax Rose Book, Sent Free, Will Help You

It tells how to grow the finest flowers. It describes all the hardy varieties that will endure extremes of climate and bloom abundantly in the home rose garden. It is illustrated with beautiful pictures of Fairfax Roses. Sent free—write for it now.

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WILL ADD CHARM TO YOUR GARDEN

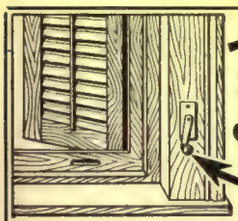
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Flower Pots, Boxes, Vases and Benches are also shown in our Catalog

All are Durable and Artistic Pieces at Reasonable Prices.

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3218 WALNUT ST. PHILADELPHIA, PA.



Just a turn of this little crank opens or closes your shutters

No wintry snows, no gusty winds enter the house installed with

MALLORY
Shutter Workers

You open and close the shutters from inside the room, without raising the sash—and they are locked and stay locked till you turn the little handle.

Easily installed in old or new houses. Write for pamphlet and prices,

MALLORY MFG. CO.
255 Main Street :: Flemington, N. J.

in their home while the torn and bloody body of the mother bird rested across the nest. The girl's voice was broken as she said:

"I'll never wear another wild bird's feather while I live."

On her return to the boat she fled to her cabin, not to leave it until the rolling of the boat some hours later told her that we were clear of the river.

As we passed up the coast, homeward bound. I pointed out to Marion single birds where formerly great flocks had abounded.

"Were there really so very, very many? Won't you tell me about it?"

"Why, child, it is like a beautiful dream even to think about it. Birds abounded on the beach, on the water and in the air. High up, the man-o'-war hawks, small of body and big of wing, soared and sailed in curves that were the embodiment of grace. Below them, great clumsy-bodied pelicans hovered, with great bills pointed downward as they watched for their prey. Each minute these birds could be seen falling in the air as if shot, and diving with less grace than a rag doll would have shown if thrown into the water by its mother. Yet, the pelican nearly always got its fish, and, as it sat on the surface of the water, trying to make up its mind whether to put the fish in its pouch to feed the babies at home or to eat it at once, little terns gathered about it or even stood on its back to see what their chance of a slice might be.

"Then, when night approached, the sky was filled with never-ending flocks of many kinds of birds, all heading for a common point, usually some key near the coast. As the key was approached at dusk it loomed up like a great snowbank, for the leaves were hidden and the branches broken by masses of birds that counted by tens of thousands."

"Did all kinds of birds go to the same key?"

"Not quite that, though a good many did. The great white pelican was rather exclusive, but the smaller brown variety was especially democratic. The herons of all varieties were chummy, though the snowy heron and the great American egret sometimes assumed aristocratic airs. The ibis or curlew had always an air of 'hail fellow, well met,' while the flamingoes always stood on their dignity."

"Are there any flamingoes left on the coast?"

"Not one. It was too easy to get at them and kill them. Their home was on the flats east of Cape Sable, where I have seen a hundred and fifty of them standing in a single line true enough to have served as a model for a file of West Point cadets. Then, when they were frightened by my approach, and flew away, it seemed as if a great crimson scarf were stretched across the sky."

"East of Cape Sable—why, that was where we got that young egret that you made pose so beautifully for me?"

Sweet Peas



The Burpee collections advertised below are the choicest yet offered. Such values would be impossible even with us, had we not increased our acreage in the Beautiful Lompoc ("Little Hills") Valley, California. Here, under the direct personal care of the Resident Manager at our FLORADALE FARM—*"The Home of Flowers"*—we had the past season *one hundred and eighty acres of* SWEET PEAS *alone!* We hold the largest stocks of SELECTED "SPENCERS" in the world.

Six "Superb Spencers" For 25c we will mail one 15-cent packet of BURPEE'S ORCHID, the most beautiful helio-mauve, which alone sold last year at 12 seeds for 25c—one regular 10-cent packet (40 to 50 seeds) each of BEARTICE SPENCER deep pink; GEORGE HERBERT, rosy carmine; MRS. C. W. BREADMORE, cream edged rose; STIRLING STENT, best glowing salmon-orange; also one large packet (90 to 100 seeds) of The New Burpee Blend of Surpassingly Superb Spencers for 1914, which is *absolutely unequaled*. With each collection we inclose our Leaflet on culture. Purchased separately, these 6 packets would cost 65c.

Six "Superfine Spencers" For 25c we will mail one regular 10-cent packet (containing 40 to 50 seeds) each of APPLE BLOSSOM SPENCER, rosy-pink and white; DUPLEX SPENCER, cream-pink and apricot; ETHEL ROOSEVELT, primrose flaked rose; OTHELLO SPENCER, rich maroon; TENNANT SPENCER, beautiful mauve, and THOMAS STEVENSON, most glowing orange-scarlet.

For 50 cents we will mail both collections named above, and also a 15-cent packet of KING WHITE, our greatest novelty for 1914.

Eight "Elegant Spencers" For 50c we will mail one regular packet (containing 40 to 50 seeds each and costing 10 and 15 cents per packet separately) of AURORA SPENCER, flaked orange-salmon on cream; DAINTY SPENCER, white edged rose-pink; FLORENCE NIGHTINGALE, clear soft lavender; IRISH BELLE, rich lilac flushed pink; KING EDWARD SPENCER, magnificent crimson; MRS. ROUTZAHN, buff suffused light pink; QUEEN VICTORIA SPENCER, beautiful primrose, and VERMILLION BRILLIANT, the best iridescent scarlet. These eight were all first named and introduced by us, and are shown painted from nature on the last cover page of Burpee's Annual for 1914.

For $1.00 we will mail all three collections as offered above, and also a 15-cent packet each of KING WHITE, our greatest novelty for 1914; and the new GIANT HERCULES, best of all warm pink; TWENTY-TWO TESTED SPENCERS OF FINEST FLORADALE Stocks for a Dollar. This great offer cannot be duplicated anywhere else in the world. When ordering it is sufficient to write for BURPEE'S SPECIAL DOLLAR BOX OF SPENCERS.

Whether you order now or not you should write today for

Burpee's Annual

Known as the leading American seed catalogue, this bright book of 182 pages for 1914 is better than ever before.

It is mailed free upon application to all who value Quality in Seeds. In asking for your copy kindly name HOUSE & GARDEN.

W. ATLEE BURPEE & CO.
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Artistically designed and finished, made of the most durable materials and practical at any time of the year in any climate. Made for innumerable purposes. Erection of building extremely simple and can be done by unskilled labor in a few hours' time.

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Service distinguished by greatest care in growing dependable hardy plants, trees, evergreens and perennials.

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Pioneers in introducing valuable new varieties, in accurately indicating sizes at each price, in developing the new type specialty catalog, which makes easy the selection of reliable plants of the uncommon sort.

Our Spring Specialty Plant Catalog and unique booklet, "A Visit to the Meehan Nurseries," free on request.

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Is Your Refrigerator Poisoning Your Family?

YOUR doctor will tell you that a refrigerator which cannot be kept clean and wholesome, as you can *easily* keep the Monroe, is *always dangerous* to your family.



The MONROE is the Refrigerator You Hear So Much About—The Refrigerator with *Genuine* Solid Porcelain Food Compartments.

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Send at once for

Free Book about refrigerators which explains all this and tells you how to select the home refrigerator — how to have better, more nourishing food—how to keep food longer without spoiling—how to cut down ice bills—how to guard against sickness—doctor's bills.

30 Days Trial Factory Price Cash or Credit

Direct from factory to you — saving you store profits. We pay freight and guarantee your money back and removal of refrigerator at no expense to you if you are not absolutely satisfied.

Easy terms if more convenient for you. Send for book NOW —Letter or postal.

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Stanley's Ball Bearing BUTTS

INSURE PERFECTLY HUNG DOORS

Friction is eliminated by the steel bearings, and the door swings smoothly and softly without creaking or binding. These butts have

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which will not work out of the joint. Write for artistic and instructive booklet "Properly Hung Doors."

THE STANLEY WORKS
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In writing to advertisers please mention HOUSE & GARDEN.

"Yes, and the creek I showed you there led to a rookery that was filled with snowy heron when I first found it, more than twenty-five years ago. My boatman went there a little later with a companion and shot up the rookery, realizing $1,100 for two days' work, murdering bird mothers and leaving hundreds of little ones to starve."

"Are not such wicked things against the law, and can't they be stopped?"

"They are against the law now, but it is hard to enforce it here. The Audubon Society tried, and employed my friend Guy Bradley to watch the very rookery we are talking of. He was murdered by a plume hunter in front of his father's house just where we anchored."

"What was done to the murderer?"

"He was acquitted. Trials are a farce in this country. I tried to protect the Alligator Bay rookery by hiring the best man I could find, at the instance of the Audubon Society, but the man reported that he had been unable to protect it. He collected his salary, though. I hope that is all he made out of it. Another attempt was made last year, which so far has been successful, and if the brave man who took his life in his hands to do it is properly supported, of which there seems some doubt, something may be accomplished."

"But, isn't there anything that can be done to save what are left of the birds?"

"Only through public opinion can they be saved, and that's why I am talking to you of unpleasant things. There are only single birds now where once there were hundreds, and the chief glory of this coast and its beautiful rivers has departed; but birds are forgiving or forgetful of wrong, as well as prolific, and a few years of the right kind of public sentiment will again fill the air and enliven the waters with many species of our feathered friends."

Later I learned that two yachts had visited the bird colony during our absence. On the first was a young woman with an automatic and her success was described as startling, while on the other a basket of champagne was the prize won by the guest who killed the most birds during the two days of their stay.

The Problem of Furniture Arrangement

(*Continued from page* 116)

every turn. Closely allied to balance comes the subject of grouping. If each individual piece of furniture is kept quite by itself, and the placing of every object balanced with mathematical precision, the effect will be intolerably stiff. One occasionally sees such an arrangement, but it is always deadly and depressing. It is just as natural for furniture to fall into groups as it is for human beings. The main thing is, in each case, that the groups be composed of the right units. There is a natural alliance in furniture grouping, just as there is natural alliance in human affairs, all alike determined by a sense of fitness and related purposes.



WHAT KIND OF A GARDEN WILL YOU HAVE THIS YEAR?

A good garden should be a part of every suburban home. Not the old time garden with beds, hand weeding and ancient tools that spelled backache in every inch of them, but modern gardens laid out in rows and worked with

IRON AGE

GARDEN DRILLS AND WHEEL HOES

Then, garden making is easy—fascinating and the family like to help with the cultivating.
On a combined tool, you can change from drill to wheel hoe or back again in three minutes. The drill sows in straight rows and makes replanting unnecessary. With the wheel hoes, you can hoe, cultivate, ridge growing crops, open or cover furrows, etc.



See these tools at your local dealer's and write for complete booklet, "Gardening with Modern Tools," showing 38 combinations. Also, copy of "Iron Age Farm & Garden News."

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LET US HELP YOU

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SUMMER BRANCH TUXEDO PARK, N. J.

What is meant by natural alliance in grouping may be seen in one of the illustrations where small tables are placed at the ends of the two sofas facing each other before a fireplace. These two little tables are set between the ends of the sofas and the corners of the fireplace, and bear lamps and books. They are so plainly meant for the convenience of the occupants of the sofas that the fitness of the grouping is at once apparent.

A chair and a tea table, or a chair and a reading table, as shown in other illustrations, make perfectly logical groupings. The grouping of a number of chairs about some central point of interest is also quite natural—infinitely more natural and in better taste than the planting of isolated chairs here and there without any particular reason for their being here or there, as one so often sees them. Such a sentry-like alignment of unsociable chairs always imparts an air of forbidding formality.

It is the natural, obvious and logical grouping of furniture that gives a room the delightful air of really being lived in. By the arrangement and grouping of furniture, more than in any other way, may we express in our rooms all degrees of feeling, from the stiffest formality down to the most invertebrately luxurious cosiness. As to the tone of a room, no matter how formal its treatment, it should always be cheerful and expressive of hospitality.

There is an erroneous notion that some people entertain that a room, in order to be cheerful or comfortable, must be filled almost to overflowing with all sorts of odds and ends, besides suffering from a repletion of furniture. No conception of cheer and comfort could be more unfortunate than this dream of stuffiness. A room simply and restrainedly furnished can be positively radiant with cheer and comfort.

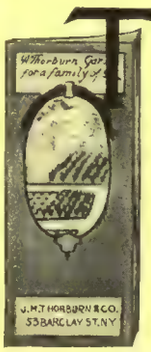
Objectionable crowding, however, is not always the result of too much furniture, but is sometimes caused by poor arrangement. In fact, with precisely the same pieces of furniture a room may be so arranged that it will seem crowded in one arrangement and spacious in another. A number of smaller rugs on the floor, with a reasonable amount of uncovered board surface, rather than a few large rugs, will give a room a spacious appearance. Too many large pieces of furniture in one room will often produce the impression of crowding. Indeed, a small number of large pieces will, time and again, crowd a room far more than a large number of small pieces. Again, a room frequently appears crowded because the furniture is either too much scattered about meaninglessly or else grouped in the centre of the floor. As a rule, with the exception of dining-rooms, it is only large rooms that can stand tables and an aggregation of other furniture in the middle space of the floor without looking crowded.

By keeping the central space of the floor open and free one can always create

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Always Reliable



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When the design and construction of a lighting fixture appeal to your artistic sense, remember it's the finish that insures permanent satisfaction.

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Hand Wrought
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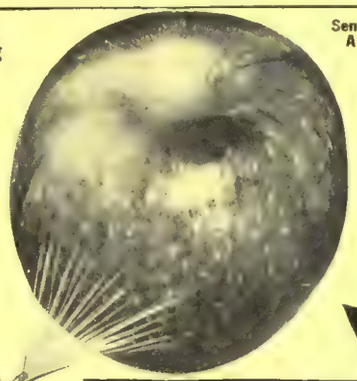
are guaranteed as to permanency of finish—every fixture for inside use carries a Guarantee Tag; thus assuring you *permanent* satisfaction, as well as the *original appeal* of their artistic design and substantial construction.

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Endorsed by 300,000 users. Size shown here—4 gal. capacity—for field crops up to 5 acres—1 acre of trees. On power sprayers, use Brown's

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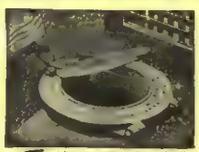
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an impression of space, even in a relatively small compass. A logical grouping of furniture also makes for space. Both these points are well shown in several of the accompanying illustrations. The English drawing-room, with the oaken settle at one side of the fireplace, is in reality only a moderate-sized room, yet the open arangement of the furniture and the clear center give the impression of great space. Again, the little German study, through a judicious and logical grouping of the furniture, with the desk and its accompanying chairs in a sensible position beside a window where the light is good, conveys an air of comfortable freedom and space, though it is really a very small room indeed.

In a room where there is a fireplace the hearth naturally becomes the center around which everything gathers. It is almost always not only a safe, but a commendable, arrangement to have a sofa or settle so placed that the occupants may sit and enjoy the warmth and glow of the fire. It may either be facing the fireplace or set sidewise nearby, as the settle in the English room or the two sofas in the cut already referred to. Such an arrangement of sofas by the fireside always invites an interesting adjacent grouping of other pieces.

When a room is too long and needs breaking up, a screen placed midway, projecting well towards the center and forming the nucleus of a furniture group, it may be of chairs or of chairs and tea-table, will often have a most pleasing effect and be entirely successful in destroying the sense of undue length. For just such purposes as this, as well as for use in corners and before doors, screens are invaluable furnishing adjuncts.

Last of all, don't be afraid to change your arrangement from time to time, occasionally moving objects from one room to another. If we keep things all the time in one place—it may be pictures or pieces of furniture or bric-à-brac—we become unconscious of their presence and blind to their merits. If, however, we change their places in a room or move them to another room, their beauty and characteristics gain new force and impress themselves upon us so that we really learn to appreciate them more thoroughly.

Laying the Foundation for a Successful Garden

(*Continued from page 96*)

sweet by liming, if necessary; third, by being supplied with sufficient plant-food (nitrogen, phosphoric acid and potash); fourth, by containing enough *soil-moisture* to enable the feeding-root systems to make use of the food in the soil.

The question is how to accomplish these results in your own garden, large or small.

The first question—that of having the soil prepared properly mechanically—is a

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simple one. It takes us to the first step in the season's garden operations. The soil should be plowed or forked up thoroughly; every square inch turned as deep as possible; that is, down to sub-soil. After being turned, it should be pulverized thoroughly, not only on the surface, but for several inches deep, using a harrow or a prong-hoe and rake, according to the size of the garden.

Keeping the soil sweet is also a comparatively simple matter. The first corrective for an acid or sour soil, as I have already said, is to apply lime. And, in addition to its chemical effect upon the soil, lime has a beneficial physical effect also, as it tends, paradoxically enough, to bind together and make firmer light, sandy soil, and to break up and disintegrate heavy clay soil. The soil also should be kept sufficiently supplied with "humus" (decayed vegetable matter), which, because it enables both water and air to get at the plant-foods in the soil, hastens chemical action.

The problem of supplying the proper amount and kinds of plant-food in the form of manure or the various natural and chemical fertilizers, is a much more complicated and difficult one. You know that the soil contains at least part of the plant-foods necessary to grow a full crop. You can also tell, from looking up its analysis, what any crop will remove from the soil The problem is to supply the difference, or, in other words, to increase the "limiting factor," which we have already discussed, until it is sufficient to make possible a full crop.

Now, fortunately, there has been discovered a fact which, as far as the home garden is concerned, makes our problem very much simpler. That fact is that if we put in more potash or phosphoric than is needed, it will not be wasted, but will be retained in the soil until the following season. Furthermore, the plant-food, which might be wasted if too much was applied at one time—nitrogen—is most effective when applied in several doses, instead of being put on all at once. So, by putting on part of it along with the other fertilizers in the spring, and applying the rest in one or more "top-dressings" during the season, we get the most returns from it and avoid the danger of wasting it. With a little experience we can come to tell quite accurately when a crop is beginning to suffer for want of nitrogen; if the soil is sweet and well supplied with phosphoric acid and potash it will be a pretty sure sign that the supply of nitrogen is beginning to run short if the foliage of the plants begin to turn a light green, instead of being the healthy dark green, which it ordinarily would be, and if there seems to be a check in the growth of the crop.

So, in practice all we have to do is to set a bountiful table, saving part of the nitrogen by way of dessert, and rest secure in the knowledge that no sorts of plants—vegetables or flowers—will make themselves sick by eating too much or by

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taking the wrong combinations. The only thing of which there is any practical danger of having an over-supply is nitrogen, and there will be no danger of this if it is applied in the way suggested.

But the problem does remain as to what are the most effective and the most economical materials to buy to obtain our needed supply of plant-foods. The material most universally known and used for this purpose is, of course, manure; and where good, thoroughly rotted manure can be had for not more than $7 or $8, delivered on the ground, it is probably as satisfactory as anything that can be used, especially for the person who has not had much gardening experience. This is true, although it is a fact that the actual *plant-food* contained in manure usually costs more than it would in the form of natural or chemical fertilizers. The reason why the manure is preferred is that the plant-food it contains seems to be in a form especially agreeable and acceptable to all plants, and also furnishes a continuous supply throughout the year. Further than that, it directly supplies a large supply of *humus* to the soil, making it light and friable and especially capable of absorbing and retaining through dry spells a large amount of water, with the result that plant growth is not checked for want of moisture.

But the proportions of plant-food—nitrogen, phosphoric acid and potash—contained in manure are usually not just right, there being too little potash and phosphoric acid in proportion to the nitrogen; and also in many places it is becoming impossible to get manure. Therefore, we are coming more and more to depend largely upon other materials.

The most valuable and available materials containing nitrogen are nitrate of soda and animal tankage; the former contains approximately 15% of nitrogen, which is immediately available or ready for use by the plant. On account of its clean and convenient form to use, and its quick action, it is extremely valuable as a top dressing to maintain or stimulate growth in a crop which is lagging.

Animal tankage varies in its analysis, but usually the higher the percent of nitrogen, and the higher the cost per ton, the cheaper will be the actual plant food per pound contained in it; besides the nitrogen, it contains a considerable proportion of phosphoric acid, but this amount is usually in an inverse ratio to the amount of nitrogen.

The material most used to obtain phosphoric acid is acid phosphate (ground phosphate rock treated with acid); this is on the market in most places in two grades—14 and 16%; the latter is the cheaper to use, though costing a little more per ton. The use of acid phosphate alone, at the rate of 400 to 800 pounds per acre, will give splendid results in the garden where the soil is known to be deficient in phosphoric acid.

(*Continued on page* 150)

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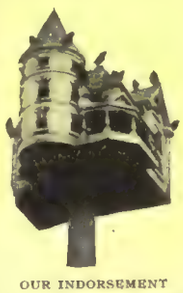
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Where one can get no manure, the best way to use these several plant-foods is to mix a complete fertilizer which will analyze 4% nitrogen, 8% phosphoric acid and 10% potash to the ton; to do this you would want to use, of the material mentioned above, 250 pounds of nitrate of soda, 500 pounds of high-grade tankage, 700 pounds of acid phosphate, 400 pounds of muriate of potash and 150 pounds of "filler"—sand or earth—which need not actually be mixed in. Both nitrate of soda and tankage are used as the source of nitrogen, because that in the latter becomes available more slowly and will last through the season. To mix the several ingredients together all you need is a tight floor or platform, or a large box, and a s square-pointed shovel or a hoe. *Mix thoroughly;* that is all there is to it. If the fertilizer is to be used in a drill or row, run it through a sieve or screen to remove any small lumps. The amount of nitrate of soda may be cut down if you expect to use it in the growing season as a top dressing, as suggested above. If your garden is so small as to require only a small amount of fertilizer it may be more convenient for you to buy it in the form of one of the ready-mxed brands of fertilizers; but, if you do, don't be led into buying by the cost per *ton*. If you stop to think a minute you will see that a 4-8-10 fertilizer at $40 a ton is much cheaper than a 2-4-5 at $32 a ton.

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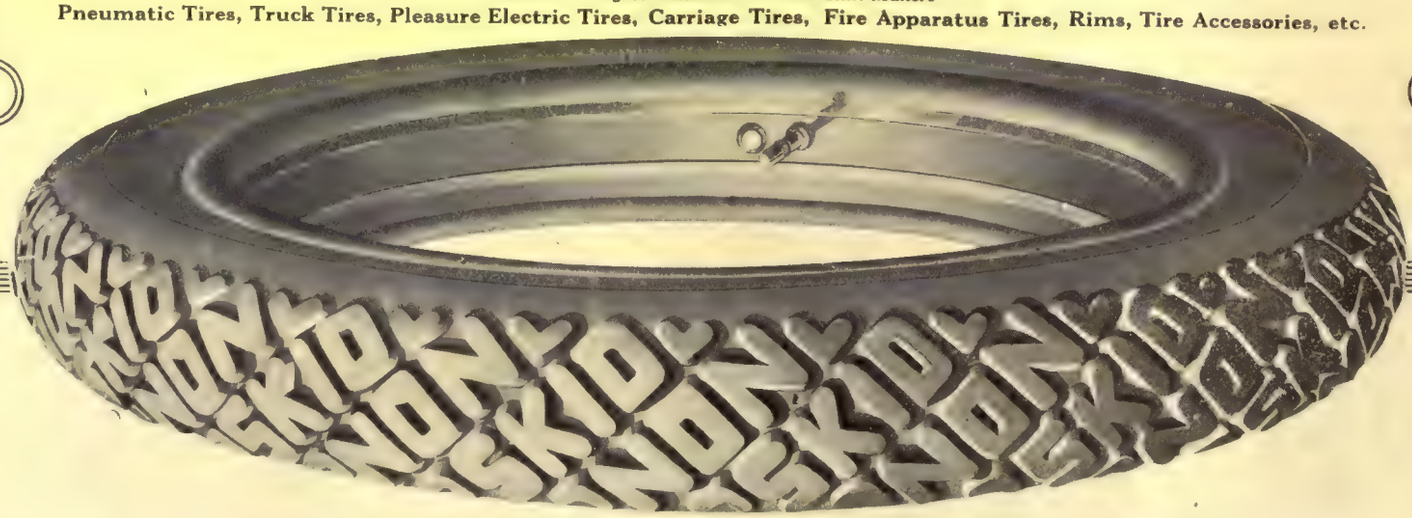
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This is positively the most superb garden flower known. Blooms profusely from June to November, each plant producing thousands of flowers, larger and more exquisite than the fall Cosmos, white, blush, pink, rose, crimson, etc. Thrives anywhere—finest cut flower for vases, etc. Mailed for **10 cts. per Packet,** including 5 other leading Novelties, free for trial, viz.:

ASTER, CREGO PINK, the very largest and finest Aster yet introduced.

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Exquisite New Hybrid Dahlias from seed.

Seed sown in March or April produce plants which flower profusely from July to frost. May even be sown in the open ground in May for abundant fall blooming. These Hybrid Dahlias embrace the exquisite double Cactus—flowered, Show, Decorative, and the immense single Clematis—flowered, and Colleret, all blended and mixed, showing every hue, tint, color and variegation known to Dahlias.

Seedling Dahlias, double or single, are wonderfully effective for late summer and fall blooming, and are as easily raised from seed as a Cabbage.

NEW HYBRID DAHLIAS, mixed, all colors, varieties and classes, **20 cts. per packet, 3 packets for 50 cts.** Each packet will contain seed enough for one to two dozen plants.

SPECIAL OFFER **All the above 7 packets of choice seed, Cosmos, Dahlia, Pansy, Aster, Primrose, Petunia, and Tomato, for only 25 CENTS postpaid. (With Catalogue, Culture, etc.)**

FREE our big CATALOGUE of Flower and Vegetable seeds, Summer-flowering Bulbs, Window and Bedding Plants, Hardy Perennials, Vines, rare new flowering Shrubs, and the greatest new Fruits and Berries, sent free to all who apply. Scores of Sterling Novelties in Fruits, Shrubs, Plants, Flowers and Vegetables.

We are the largest growers in the world of Gladioli, Cannas, Dahlias, Lilies, Iris, etc. Our gardens at Floral Park and Flowerfield comprise more than one thousand acres. We are headquarters for all summer-flowering Bulbs and our stocks are the largest, best and cheapest.

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20 Fine Gladioli, 10 sorts named, 2 of each
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Order at once. This offer will not appear again. Bulbs need not be sent till you are ready for them. Mention House & Garden

Address JOHN LEWIS CHILDS, Floral Park, N. Y.

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Beautify your floor. Reflect your furniture very, very softly in it. See it richen. Notice how your room seems somehow to grow larger through *lustre*.

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24 pages—new edition—**"Beautiful Floors, Their Finish and Care."** You'll find lots in it to make housework easier. It tells about

Finishing New Floors
Finishing Old Floors
Hardwood Floors
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Cleaning and Polishing
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For the Mansion—Nothing Richer
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Price, $12,000. Actually cost over $35,000. The greatest bargain on CAPE COD. Estate Comprises 18 acres of High Land partly cultivated with vegetable and flower gardens, balance magnificent Pine Woods. Mansion House with 6 Chambers and Bath with space on 3rd floor for 5 more Chambers. Fine cellar with furnace. Electricity now available. Gardener's Cottage and Large Stable. All located directly on Shore of large and very beautiful inland Bay with unsurpassed view of Ocean. We are pleased to give detailed information of this and many other Large or Small Estates which we have for sale or rent at **Mattapoisett, Marion, Buzzards Bay, Monument Beach, Pocassett, Cataumet, The Falmouths, Woods Hole, Cohasset, Osterville.** and other points on Cape Cod. Artistically Illustrated Booklet with road map will be sent on request. Automobile service.

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Desirable Cottage—Furnished. Five master bedrooms, four servants' bedrooms, four bathrooms. Hot air furnace, electric lights and bells. Stands in two acres of beautiful grounds. Also an unfurnished cottage of eleven rooms, two bathrooms, in the higher part of the town, with hot water furnace; one acre of grounds with shrubbery.

Apply **LAIRD and SON, Aiken, S. C.**

"Rus in Urbe" *Highly Restricted*

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Entrance from Riverdale Ave. to Fieldston

If New York can develop a fashionable suburban center—as has been done in other large cities—Fieldston offers the only possibility.

All the picturesque charm charteristic of Westchester County is to be found on this wooded ridge overlooking Van Cortlandt Park and the Hudson.

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Approached by Broadway or Riverdale Ave., and easily accessible to rapid transit lines, it can be truly said no other development offers such facilities.

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near Greenwich Country Club, on high ground with charming view of Sound and Country; 25 acres. Fruit and shade trees, tennis court. This Fine House contains 5 master's rooms, 4 baths, 4 maid's rooms and bath. Modern stable and garage.

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A Beautiful Home in White Plains, N. Y.



House consisting of 13 large rooms, southern and western exposure. First floor, hall, reception room, living and dining rooms, kitchen and butlers' pantry. Second floor four bedrooms each having large closet. Third floor also has four rooms and a trunk room. Place is occupied by owner and in excellent condition. The lot is 90 feet by 200 feet and the house stands about 60 feet back from the street on an elevation of about 4 feet above the sidewalk, with stone retaining-wall. It is well planted with trees, shrubs, plants and bulbs, and lawn is surrounded by hedge which gives complete seclusion. The price is $18,000, which is low for this property. For further information write to

Mgr. Real Estate Dept., HOUSE & GARDEN, 31 E. 17th Street, or ROBERT A. KUTSCHBOCK, Room 2613 Grand Central Terminal, New York, N. Y. Telephone, 6000 Bryant.



A delightful spot in Glen Ellyn, one of the most attractive suburbs of Chicago, twenty-two miles out, all city improvements.

Modern house, twelve rooms, full attic and basement. Beautiful lawn occupying half block, well wooded, natural ravine and creek through center. Rustic summer house, large barn, etc., five blocks from C. & N. W. and electric railroads.

Surrounding country doubled in value in five years; place is growing rapidly. Will sacrifice for quick action at $25,000, terms reasonable Entire block 720 by 335 feet can be secured if desired.

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Gentleman's Farm. 42 acres, all tillable; Hudson River and mountain view; beautiful trees; modern house; new brick stable; one mile to station; price, $15,000. Write

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Ideal sites for distinctive country homes
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Gentleman's Estate of 50 Acres in one of the healthiest spots in New England within an hours' ride of Boston, midway between Providence and Worcester. Excellent soil; 100 apple, pear, cherry and quince trees, grapevines, etc.; 14-room house, steam heat, bath, open fire places; two never-failing wells of water. Price, $10,000.



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A WORD TO THE HOUSEKEEPER

Last year you had to take the second-best in your improvements because the best was beyond the reach of your designers, and there were no experts in your locality.

HOUSE AND GARDEN is the advisor you need if you contemplate improvements of any kind about the house or garden. It covers the field of decoration, furnishing and gardening with authority, artistic taste and precision, and its purpose is to make the home more beautiful and more livable. The beauty of the magazine and its illustrations will be a pleasure for you, even if you do not plan any changes or improvements just now. Let your subscriptions start with March 1st, and include this helpful expert among your regular visitors.

$3.00 a year; 25 cents a copy.

McBRIDE, NAST & CO., Union Square, N. Y.

REAL ESTATE
Continued



On Long Island Sound This property for Sale or Rent House Furnished

Two and one-half hours from New York 130 acres at Greenport, L. I. High elevation overlooking L. I. Sound and Bay. Good bathing 2 minutes from house, fine beach, plenty fine shade trees, beautiful drive through grove. 1 1-2 miles from village, best roads in State, fine large house and gardens, cottage and other outbuildings all in good shape.

WM. POST, East Williston, L. I.

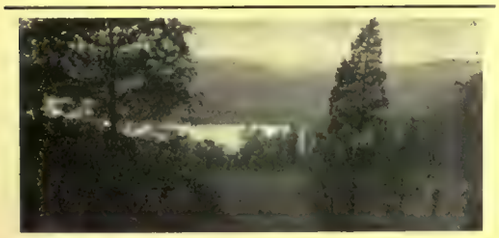


Farm of 100 acres, 600 peach trees, four years old, 100 apple trees; old fashioned house, good barns, all stock, horses, cows, etc..... Price, **$8,000.00**

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Where we grow peaches and apples with the finest flavor and highest color of any in the world.

We have farms varying in size from 15 acres to 600 acres, in price from $3,000.00 to $90,000.00, midway between New York and Boston, enjoying the best markets in the East. Shipping facilities unequaled. *For further particulars apply to*
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COLONIAL HOMESTEAD—MT. KISCO, N.Y. looks down upon this lake—easy access, macadam road—wonderful views—surmounts and adjoins millionaire's estate. Easy terms—10 minutes to depot. OWNER, Box 557, Mt. Kisco, N. Y.

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Three acres on the Kennebec River, five miles up from Bath, one acre heavily wooded. Cabin contains living room, kitchen with open fireplace and three sleeping rooms. Beautiful views and surroundings. Price is $1,000. For further information and photographs write to
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A Gem of an Island
In the Famed Chippewa Bay Section of the St. Lawrence River Thousand Islands

The Island has an area of 2 acres; is suitably improved with residence, boat house, etc., designed by a New York architect, and is completely furnished and ready for occupancy. The present owner has no use for this property. It can be purchased at a bargain. The improvements cost over $60,000. The entire property will be sold for a considerably lower sum.

For particulars apply to
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150 Broadway, New York City

SOUTHERN GARDEN DEPARTMENT
Conducted by JULIA LESTER DILLON

The writer of this department will gladly answer inquiries from Southern readers in regard to their individual garden problems. Please enclose a self-addressed, stamped envelope if a prompt personal reply is desired.

ORNAMENTAL HEDGE PLANTS AND VINES

NO fence that was ever built or planned can equal in attractiveness, for division lines or for street protection, a hedge of ornamental growth. Not only does the living boundary need no repair, but it grows in beauty from year to year. It would have been better to have planted the hedges in December, but it is not yet too late to take advantage of the rifts in the February clouds and to plant out those shrubs, both deciduous and evergreen; those roses and hedge plants that are required in the garden plan, and to feel sure of good results, from even the late start.

For formal plantings, the Amoor and California privets are unexcelled. The Amoor, *Ligustrum Amurense,* is unquestionably the most desirable hedge plant grown in this section for the home grounds. It is of comparatively rapid growth and retains its bright-colored foliage throughout the entire year. If closely cut back it may be put out safely, and if kept closely trimmed, in two years makes not only an effective but highly ornamental division line or screen.

The California privet, *L. ovalifolium,* loses its leaves in winter, but is more satisfactory for the higher latitudes. It is much used in the North and West.

For a low-growing hedge, where strength as well as beauty is desirable, Thunberg's barberry, *Berberis Thunbergii,* is most effective. Its leaves of bright green throughout summer change to a rich red in autumn, and the bright red berries, which come in profusion in earliest spring, are wonderfully attractive against the delicate green of the new foliage. This most beautiful dwarf barberry is one of our importations from Japan.

Almost as delicate as fern fronds are the leaves of Thunberg's spiræa, *Spiræa Thunbergii,* which would hardly give bloom in March of this year, but might surprise by an April shower of its dainty and beautiful little blossoms that remind one most forcibly of the Baby's Breath, *Gypsophila paniculata.* Its branches are slender and drooping; its leaves are very narrow and of light green, which changes to an orange and red in the fall. This is a planting which makes for beauty, but not for protection.

For strength and durability there is no hedge plant which can equal the *Citrus Trifoliata,* the Japan hardy orange, and while it is not an evergreen, the hardy, green

THE BREATH OF SPRING

WITH the coming of March every lover of the outdoors begins to wait impatiently for the arrival of Spring. He or she has visions of the open fields, the broad upland, the early vegetables, and the first flowers of the new season.

¶ Striking the key-note of another year comes the April Gardening Guide of HOUSE & GARDEN. This, one of our four great numbers, has become an institution with us, and its arrival is eagerly awaited by thousands of garden lovers all over the United States.

¶ The advertiser who wishes to reach this broad, cultured class of American men and women who live in the open and think for themselves, cannot find a better medium, class or otherwise, than the columns of the next HOUSE & GARDEN.

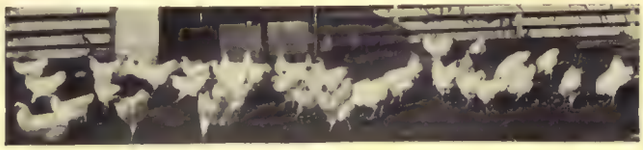
¶ And what a variety of things the professional and amateur gardener does need, to be sure! Garden seeds of the greatest variety, flowers, fruits, trees, hedges, fences, fertilizers, implements—these are a few of his most obvious wants, and only begin to answer the demands of people living active lives in our suburban and country districts.

¶ The readers of HOUSE & GARDEN expect and want to spend a good deal of money during the next ninety days on their own home plot, and for their own pleasure. Have you, Mr. Advertiser, something that *you* would like to bring to their attention?

Fred'k Leland

Manager of Advertising

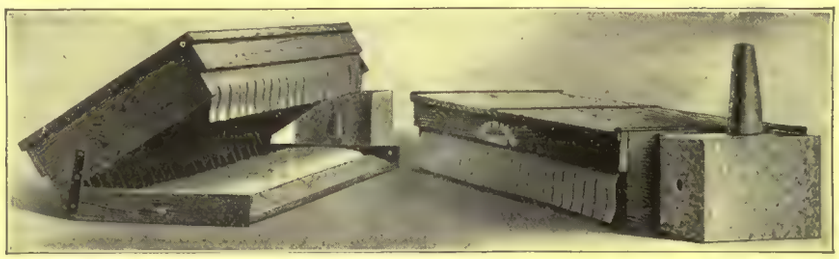






POULTRY DEPARTMENT

The purpose of this department is to give advice to those interested in poultry The manager will gladly answer any troublesome questions. Address "Poultry Department" and enclose a self-addressed envelope.



Close-to-Nature *Open Air Hovers and Brooders*

As natural as the broody hen; contact warmth; open air ventilation; no piling up or overcrowding; used with lamp or as fireless. Send for circular.

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and calendar of fine, pure-bred poultry for 1914. This book contains many pages of poultry facts, 70 different varieties, some shown in natural colors. All illustrated and described, tells how to make hens lay, raise and care for them, all about the Famous Greider Incubators and Brooders. Shows photo of the largest poultryfarm in Penn. Prices of breeding stock and eggs for hatching and supplies within reach of all. A perfect guide to all poultry raisers. Send 10c for this noted book on poultry.

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Naturalist



Beautiful Swans, Fancy Pheasants, Peafowl, Cranes, Storks, Ornamental Ducks and Geese, Flamingoes, Game and Cage Birds

"Everything in the bird line from Canary to an Ostrich"

I am the oldest established and largest exclusive dealer in land and water birds in America and have on hand the most extensive stock in the United States

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YAMA FARMS

Quality Products

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YAMA FARMS' specialize in S. C. Black Minorca chickens because they lay the largest hen's egg known—white shelled—and in Barred Plymouth Rocks, because they are such a good all around chicken (layers of brown eggs) and because specimens perfect in feather barring are so interesting to develop from a breeder's standpoint.

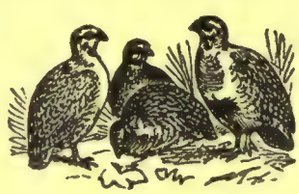
Eggs for hatching sold from both varieties. Send for booklet.

We also have about three thousand pigeons bred to produce **one pound squabs.** We have young mated breeders to sell, pure-bred varieties and cross-breds. Send for Pigeon Booklet.

On our Dairy Farm we have a herd of registered **Jerseys** with "Register of Merit" cows among them. Also **Registered Large Yorkshire Swine.** Everything sold on approval.

YAMA FARMS

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Bob White Quail, Partridges and Pheasants

Capercailzies, Black Game, Wild Turkeys, Quails, Rabbits, Deer, etc., for stocking purposes. Fancy Pheasants, Peafowl, Swans, Cranes, Storks, Ornamental Geese and Ducks, Foxes, Squirrels, Ferrets, etc., and all kinds of birds and animals.

WILLIAM J. MACKENSEN, Naturalist

Dept. Y. Pheasantry and Game Park YARDLEY, PA.

THE POULTRY DEPARTMENT

of House & Garden

will furnish upon request any information relat ve to the selection, raising and care of poultry. Address, enclosing stamped returned envelope.

POULTRY DEPARTMENT

House & Garden

31 East 17th Street, New York City

wood makes it not unsightly in winter. If cut closely three times a year it may be kept within bounds and nothing can penetrate it, "from a rabbit to an elephant."

The *Prunus Caroliniana,* the mock orange of the South, is almost too well known to need mention. It grows very rapidly and must be kept closely sheared and watched carefully on this account. It is, however, a beautiful evergreen hedge plant, and for large boundaries, where quick growth and strong protection are needed, nothing will give better results.

For the old-fashioned formal garden, such as our great grandmothers used to make, the dwarf boxwood is in great demand. All through the South, from Richmond to New Orleans, these old gardens may be seen. Some of them are unkempt and uncared for, and others are trim and neat and in perfect condition; but in their quaint and stilted way they all stand as monuments to that antebellum period of the geometric design and the formal garden. The old boxwood borders are certainly attractive; the old evergreens are many of them stately and beautiful at this time, and both seem everlasting in their slow growth, but who would make such a garden now? Let us preserve these that we have in honor of a day long dead, but, for the new ones, the new order to which we have changed is certainly best.

From the multiplicity of vines which may be grown in the South, choice would seem to be unlimited, but in reality there are but a few on which one can depend for unfailing beauty and grace. First among the evergreen vines for foundation walls of buildings and terraces, and also for climbing pillars and pergolas, nothing is more desirable than the English ivy, *Hedera helix.* To serve almost the same purposes, but slightly heavier in growth, the Climbing euonymus, *Euonymus radicans,* is also good. For a close covering of stone or brick or wooden walls the trailing fig, *Ficus repens,* is a most beautiful vine. It clings very closely and is delicate and dainty. Its leaves are a very dark green, finely marked, and unless the winter is very severe it is hardy and evergreen in the latitude of Augusta.

The two most attractive evergreen vines with blossoms are the *Rhynchospermum jasminoides* and *Gelsemium sempervirens,* the Caroline yellow jasmine. The former is easily grown and blooms for many months. If put out in February it will probably come into bloom in early June and give two months of flower. It is of rather slow growth, but gains in beauty year by year. Its fragrant clusters of starry white blossoms against the background of rich, dark-green leaves are always a most striking picture.

The yellow jasmine is of daintier foliage than the star jasmine and its blossoming period is shorter, but it is a mass of golden yellow cups of amazing sweetness just about the time that the purple tones of the fragrant wistarias are flung out as heralds of the spring that is to be.

Regular March work means always the starting of the summer garden. The seeds of salvias (Bonfire and Ball of Fire) should be put in boxes at once. They are rather hard to germinate, and need especial care in planting and watering after germination, but are usually satisfactory in every way.

The Mammoth verbenas, white, pink, and scarlet, should be planted immediately. For a purple border, the lavender and violet are also very desirable.

The Giant antirrhinums, if planted in the open now and thinned out later, give most beautiful effects. For length of time of flowering, for cut flowers and for fragrance nothing is finer. The first stem that comes up is apt to be very tender; this should be pinched off, and the plant becomes strong and stocky and the flower stalks come up by dozens. All the colors are fine, and are so soft and velvety that they do not clash, even though they are mixed in the borders. Better results are secured if they are planted in masses of one shade, or if all the shades of pink and red are placed in a group, and all the shades of yellow and orange and brown likewise. Just one thing let me advise: Plant snapdragons in quantity, and plant them now.

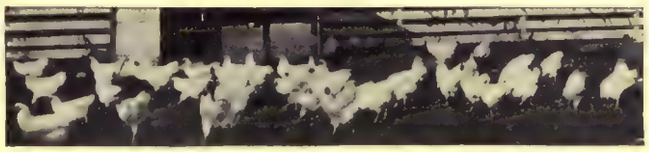
Last March I planted two packages of dahlia seed, Twentieth Century or Orchid-Flowered and Double Cactus, and no planting that I have ever made gave me such returns in brilliance and beauty as did those seeds. They were planted in boxes and transplanted when strong enough to the background of the borders. There must have been at least one hundred plants. They were cut back and treated exactly as were those which were already rooted, and when the fall months came on, from early September until late frost, in November, the garden was ablaze with their beauty.

Zinnias, both the improved Large-Flowering Dwarf and the Giant Double, should be planted in the open at this time.

Other plantings of seeds like nasturtiums, helianthus, ageratum, sweet alyssum, marvel of Peru morning glory, hyacinth bean, scarlet runner bean, cardinal climber, cypress, and all the vegetables, must be made this month.

Perennials that have become crowded and need to be separated should be cared for now. Cannas should be taken up at once, every root separated, and replanted in the positions for summer bloom. Give them plenty of room; plant them in groups or as hedges for a screen or division line; be generous and share your over-supply with your less prosperous neighbors, and summer gladness will be yours. Veronicas, physostegias, perennial phlox, and all the summer bulbs and roots should be put out now. The summer-blooming shrubs and the lawn will need a spring treatment of fertilizer. Be more than sparing with the manure and bonemeal, and rich blossoming will repay







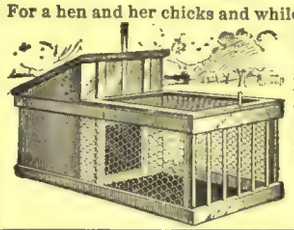
POULTRY DEPARTMENT

The purpose of this department is to give advice to those interested in poultry. The manager will gladly answer any troublesome questions. Address "Poultry Department" and enclose a self-addressed envelope.

Hodgson Portable Poultry Houses

WIGWARM Setting and Brood Coop

For a hen and her chicks and while she is sitting. Gives protection from rats, skunks, hawks, and other enemies. Insures larger hatches—has proved its success for 22 years. Shipped knocked down—size, 2x4 ft., 2 ft. high.



$3.00

TRADE MARK WIGWARM

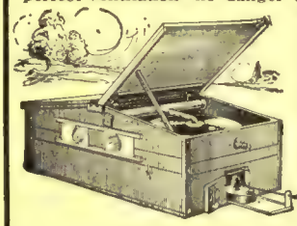
No. 0 Colony Laying House—for 12 hens Fitted complete with nests, fountain and feed trough. Sanitary—easily cleaned. One man can easily care for several hundred birds. Nicely painted—set up in fifteen minutes. A comfortable year-round house. In stormy weather the run may be covered, giving a protected scratching room. Size, 10x4 ft., 5 ft. high.



$20.00

WIGWARM Brooder

Hot-water and hot-air heating combined gives perfect ventilation—no danger of overheating—maintains even temperature regardless of cold outside. Used and endorsed by poultry experts and by experiment stations and such men as Dr. A. A. Brigham, Dr. N. W. Sanborn, Dr. P. T. Woods and Mr. A. F. Hunter. Size, 3x5 feet.



$15.00

Five-Section Poultry House—10x50 ft.

Sanitary, durable, up-to-date—made of red cedar, clapboarded outside, interior sheathed. Made in 10-ft. sections, each fitted with roosts, nests and fountain. Open fronts, with canvas-covered frames. You can add sections at any time. Easily erected. First section, $75.00; additional sections, $60.00 each.



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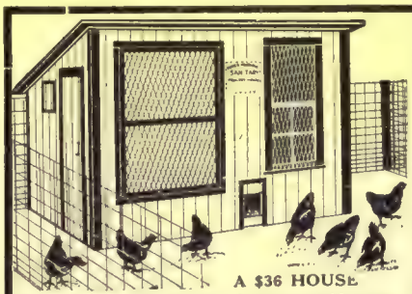
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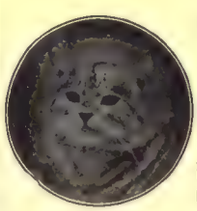
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your efforts, when the time for flowering comes in June.

While this is the most trying of our winter months, it is always wise to begin the spring garden-making under cover at this time. Seeds of tomatoes, pepper, lettuce, cabbages and eggplants should be started at once. The salvias, snapdragons, verbenas and other delicate annuals should be put in boxes. Sweet peas and nasturtiums that should have been started in November may be put in now and good results obtained. Plant both in trenches and tend carefully, and June blossoms will repay your care. If untoward conditions have prevented the making of a lawn, begin it at once.

Planting of gladioli and iris must not be postponed another minute.

If there is any time left over after the busy day's work is done, the blue skies, the robins that nest in the tree-tops, and the wonderful beauty of the waking world will gladden your eyes and rejoice your heart, for March is the resurrection month in the land of cypress, corn and cotton, below Mason and Dixon's line.

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IT is worth while to be careful. The eggs one sets may transmit to next year's brood all the desirable characteristics of this year's flock, or they may convey faulty physique and susceptibility to disease. The first consideration is selection of parentage, according to the best traits that are visible. This selection should be made some time before setting the eggs, so that family relations in the brood colony are firmly established and the members content with one another. These parents must have sensible care. Food not too stimulating and fed not to favor "loafing," fresh, pure water, green food, grit, cleanliness, fresh air and room are the essentials of ideal parenthood.

Further than that, there should be selection with regard to the eggs themselves. Naturally we choose those of good appearance. Personally, I choose the best-looking eggs and the largest, barring double-yolked eggs and freakish shape.

Beware of chalky, brittle-shelled eggs. Often they will not last through the hatch. They indicate an excess of mineral matter in the shell, due to an unbalanced ration, a defective nutrition in the hen.

I would not keep eggs longer than two weeks for setting, and I perefer them fresher. When kept, it should be in a cool—not cold—dry place. A room in a cellar adjoining a furnace room seems to be satisfactory. The eggs should not be shaken, nor should boughten eggs be set for at least twenty-four hours after a journey.

Keep a sharp eye for disease in a parent bird. Hens stricken with violent diseases cease laying, but there are slower chronic conditions which I have found do not immediately affect egg production.

THE HOUSE FURNISHER'S BULLETIN

New York is the market place of the world and into its shops, great and small, pour all the best products of the artisan, the decorator, and the furniture maker. All that goes toward making the home of good taste, may be purchased in this city. To give the readers advantage of the city's shops, the sharp eyes of experts are to be constantly employed in ferreting out for this column all that goes to make the house distinctive.

ONE of the standard pieces of Sheffield plate that has been brought thoroughly up to date is the Guernsey hot milk pitcher, to which has been added a Sheffield stand with a small alcohol lamp for keeping the contents hot. The quaint-looking, squat-shaped pitcher with its wicker handle, well-shaped spout and clumsy-looking top, like that of a milk can, is useful in various ways and need not be limited to service on the breakfast table. With the lamp it makes a good receptacle for hot water on the tea table, or without the lamp it will take the place of the ordinary small pitched that has so many uses. Another little Sheffield pitcher of about the same capacity is a perfectly plain model with a hinged top that is weighted with a silver ball attached to the under side, so that the top is raised and lowered automatically as the pitcher is turned up.

A SMALL size book case that is inexpensive, but most convenient as to shape and capacity, is one of the new pieces of furniture, the idea of which was borrowed from the magazine stand that has proved itself so useful. Like the magazine stand, it is primarily intended to hold the current books or those that happen to be in use at the moment, thus preventing them from piling up in a heap on the library table, and tending most decidedly to neatness in that particular apartment. It stands about four feet in height and is quite narrow, with four shelves and a small half width shelf at the top, and is quite large and substantial enough to form a permanent case for a limited number of books if so desired.

OFTENTIMES, in a room where space is valuable, it is not always possible to have a music cabinet. This problem has been well met by the new piano seats, which provide at the same time ample room for sheet-music in the compartment underneath the hinged lid. These seats are made in a variety of woods to match the piano case, and, with their long, low, graceful lines, add greatly to the attractiveness of the room. They are much more adaptable than the old revolving piano stools, and will allow two persons to sit comfortably at the keyboard for the playing of duets. When not in use they may be pushed in underneath out of the way.

Man-



suppose you tried to hire a laborer to do daily—for one week—what you have been doing every day for years,—do you think he would take the job? Not much—eight hours a day is good enough for him.

Then you wonder why you are so easily irritated, why you can't digest the food you used to get away with, why you're generally "out of sorts" so often.

The real trouble is you've been doing more than a "man's work," you've been burning the candle at both ends.

Nature never intended you to be out of sorts in this way.

You were created to be well, you were born to be strong and vigorous.

Better stop a while, right now, and get yourself in shape.

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The Craft of Hand-Made Rugs

By AMY MALI HICKS

The general interest in the arts and crafts movement has revived certain old-time industries and small crafts. These crafts should appeal to the amateur because they require such simple materials and equipment. It is the basis of this book to take these old-time methods of handicraft to revise and refreshen them by careful planning in color and design, and to add to them the art feeling of our own times.

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Has it ever occurred to you that in addition to the other many practical sides of a greenhouse, that it could also be used to advantage as a property line screen shutting out some objectionable view?

Like those buildings of your neighbors for instance—you may not particularly object to them by themselves, but it's the activities about them that are so annoying.

The placing of the house above, on the property line, made a happy and effectual solution of just such a screening problem.

Originally this house was only 75 feet long, having three compartments—being planned, however, for the addition of a fourth. It is now complete. The shingled workroom harmonizes in treatment with the residence, as it of course, should.

The portion of the greenhouse roof which looks white, is covered with "shading." It marks the limits of the first compartment which is used for semi-tropical and shade thriving plants. For further particulars of this particular house—and a dozen or more others—let us send you our latest catalog, entitled "A Few U-Bar Greenhouses." You will like the intimate personal way each subject is described and be delighted with the large sized illustrations used.

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VOLUME XXV NUMBER 3

WILLIAM A. VOLLMER,
Managing Editor

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Years ago, in the prologue of an old play, was said: "Old houses mended, cost little less than new before they're ended." However this may be, and there are some who contradict it, the proposition of remodeling is an alluring one if only for the chance it gives of getting a home graced by well-grown trees and the heritage of a fine old-fashioned garden

House & Garden
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During the "Clean-Up Week," instituted by an improvement association, carts bearing the legend "Clean empty lots" collect the rubbish that has been gathered

For the Good of the Neighborhood

WHAT CO-OPERATION CAN DO FOR THE IMPROVEMENT OF A TOWN—THE FORMATION OF A NEIGHBORHOOD ASSOCIATION—WHAT CAN BE DONE WITH VACANT LOTS, RUN-DOWN STREETS, ETC.

BY HERBERT E. ANGELL

IF the trite remark be true, that "every man's house is his castle," it is natural and proper that the owner should care little, or not at all, what takes place outside his walls. He is content to beautify his own house and garden without reference to civic or community improvement in general. This indifferentism might be justified were local governments as efficient in practice as they are elevating in theory. While the present conditions prevail, however, there seems to be no doubt that the mere fact of residence in a community carries with it duties to the general civic welfare which are as much the concern of the individual as the municipality.

This personal control of community affairs is no new thing. It reaches back into the remote past when our Teutonic ancestors organized their "gemoots" for the treatment of tribal problems, whether physical or moral, and these bodies are the prototypes of contemporary systems of government. A modern instance of such an impromptu organization may be cited.

Several years ago a new section of one of the larger suburban cities was developed as a high-class residential park. In its very center, at the intersection of three drives, an investor purchased a particularly attractive plot, intending to hold it for increased value. Within a few years nearly one hundred houses were erected and occupied, thirty of them being in view from this vacant lot, which, strange as it may seem, became a common dumping ground for the odds and ends discarded by the neighbors. A high growth of underbrush and weeds partly hid this rubbish from sight.

The condition of this lot became a subject of discussion. The owner was written, and requested to clean it up, but, as his taxes and assessments were becoming heavy, he lacked enthusiasm when additional expenditures were suggested.

Finally the neighbors clubbed together, each contributing one dollar, the funds being placed in the hands of a committee, which immediately employed laborers to clean out the rubbish and cut down the weeds and underbrush. Twelve wagon-loads of rubbish were carted away, including almost every imaginable object, from bed springs to discarded bathtubs.

With this rough work completed, the possibilities of still further improvement became evident. To-day this plot is carpeted with a perfect lawn, shaded by tall forest trees, and is one of the beauty spots of the neighborhood.

From this beginning a permanent improvement was organized.

In the field of its activity there are nearly 100 residences, each of which is represented by one number. The particular lines of improvement which they have accomplished include the cleaning up of vacant plots, planting of grass seed along the sidewalks between the pavement and curb, the erection of street signs giving clear guidance to street numbers, and the planting of flowers in odd bits of vacant land.



The neatness of this New England street is evidence of the good work of a local improvement organization



A card attached to this tree bears the sign: "Seed has been planted here; please, give it a chance to grow." The betterment association is responsible for the seed sowing, the sticks spread to protect the grass, the sign and the wire guard on the tree

It would seem, therefore, that a definitely organized association is a most effective means for local improvement.

The formation of such an association is, by its very nature, a simple matter. The usual method is to call together a score or more of neighbors for the purposes of organization. After discussing the object of the Association, a President and a Secretary-Treasurer should be elected. An Executive Committee of not more than five should be appointed, including the President and Secretary-Treasurer. The Chairman of this committee should have full charge of the active work of the organization, and for that reason he should be chosen for his ability to get results, rather than for his prominence in the community. A man who spends a large part of his time in the community will usually be better able to carry out the work than one whose business keeps him away during the daytime.

The funds may be secured either by dues or by limited assessment. In a few cases, money for specific purposes of this sort has been raised by entertainments and fairs. It is surprising how much can be done with $100 a year.

The name of the organization should convey its purpose, as Village Improvement Associations, Neighborhood Improvement Association, or Clean-up Club, and it is a good thing to include the name of the community, so that it may secure the benefit from the publicity which always follows successful work of this character.

With the organization completed, a definite line of work laid out and sufficient money in the treasury to carry it through, the Chairman of the Executive Committee should be authorized to proceed with the work.

Laborers should be employed and their work personally superintended until they understand clearly what is expected of them.

By all means, keep a photographic record of the work of the organization. Pictures taken before and after improvement are always of interest to the members, and are of great use in interesting and securing new members. Their publication in the local newspapers stimulates an interest in the work in other sections of the village.

A set of lantern slides made from such views makes a splendid subject for an evening's entertainment.

The duties of such an organization in a growing community are extensive and numerous, and new opportunities for service will constantly present themselves. It would be well to suggest here a few common problems which must be confronted, and to indicate a general method for effective solution. To the uninitiated it would seem that



After twelve wagon loads of rubbish were removed from this lot, the under brush cut and seed sown, it became a beauty spot. The sign protects the place from nuisance



Such a vacant lot as this may be a constant eyesore to you

the owner of a vacant lot should be induced to keep it in attractive condition, but let us look at this from his point of view. He buys a plot as an investment. He, perhaps, lives in another part of the village, or even farther away. The lot is an expense, for it brings no income, while taxes and assessments must be paid. Why should he go to additional expense to make improvements which will be beneficial to those living in the vicinity, but of no value to him? It is seldom that an owner of such a lot will aid in its improvement, but there is usually no difficulty in obtaining his consent to allow it to be cleaned up.

After obtaining the co-operation or consent of the owner, the next question is what to do with the lot after the rubbish has been cleared away. Usually a planting of grass seed is all that is desired, with perhaps a flower-bed, if it is so located that it can be cared for and protected. There are many uses to which lots may be put which add to their utility, as well as their beauty. School gardens, play-grounds, tennis courts and public resting places are often very acceptable solutions. In a few instances such lots have been used as nurseries for your street trees. The care of young trees, however, particularly if they are taken from the woods, requires more time and experience than is usually available.

There is almost no limit to the work which such associations may undertake. In one village an annual spring clean-up week has been established. Throughout the community, rubbish of all kinds is taken from back yard, attic and cellar and placed on the side of the street, where it is gathered up in wagons and carried away. Vacant lots are cleaned at the same time.



When it is impossible to prevent the placing of telegraph or telephone poles in prominent places, their unsightliness can be mitigated by the planting of vines; this example is a well-grown trumpet vine

Many associations carry on active campaigns against the erection of bill-boards. This is one of the most difficult problems, because bill-boards are a source of revenue to property owners. Legislation has been suggested making the erection of bill-boards and signs illegal under certain conditions.

In other villages good work has been done in eliminating telegraph poles. This requires either special village ordinances or the coöperation of the lighting and telephone companies.

Where it has been found impossible to place the wires in conduits under ground it has often proven possible to have the poles placed along the back line of the property. While this improves the appearance of the street, it sometimes causes trouble when it becomes necessary to replace the poles. Climbing vines trained to cover telegraph poles will lessen their unsightliness.

(*Continued on page 234*)



The restriction of the Woman's Club prevents more surely than does that of the policeman



A trolley line would have utterly ruined the roadside appearance of this wooded park had not the local association seeded the road bed and planted screening but attractive vegetation



The same psychology that creates an interest in small pets makes the fuzzy little "Silkies" appeal to many

Looking into the Poultry Question

KEEPING QUALITY CHICKENS, A HOBBY WORTH WHILE—AN ANALYSIS OF THE VARIOUS BREEDS FROM THE STANDPOINT OF THE AMATEUR—EGG LAYING AND GOOD APPEARANCE

BY E. I. FARRINGTON

THE old jest of the commuter's chicken yard and its nuisances, of the foolish, useless, wandering birds that destroyed your garden and your temper at one fell scratch—these conceptions are going. One is beginning to hear the conversation of the country dwellers adopt the phrase of the poultry stock raiser. It is astonishingly like that of the old-fashioned "horsey" man; that is, the man who followed the shows and discussed points of conformation. But with poultry it is a little different; for, besides the interesting facts about the breeds, and there are a great many interesting breeds, there are the points of breeding by selection to discuss. All over the country, raisers of stock are not only developing attractive breeds, but they are breeding races that lay eggs. You can buy a thoroughbred of any stock, but you can go some places where, just as horses are bred for speed, birds are bred to lay well, or as table fowl.

So poultry keeping has become a favorite recreation, a profitable recreation in these days of the soaring cost of food. The best thing about such a sport is that you can practice it yourself. Professional and business men all over the country are taking it up. Physicians are giving half an hour of personal attention to their flocks each day, and recommending a similar plan to their patients. The old-time neighborhood rivalry as to egg production still endures, but there has come, in addition, a genuine pride in owning finely feathered, aristocratic-looking birds which are a delight to the eye. There is quality in the poultry yard now.

Poultry keeping is one of the few hobbies which pays its way. That may or may not be a matter of importance to the man who rides it, depending upon the fatness of his purse, but it is an interesting point. Even the wealthy poultry keeper finds satisfaction in the fact that his hens keep the egg basket full. And to own a 200-egg hen is to have something to boast about.

It is difficult to say whether the breeding of better poultry has caused the increase in interest, or whether increased interest has raised the standard of breeding. Perhaps it doesn't matter. At any rate, the fact remains that splendid flocks of pure-bred, well-kept fowls are now to be found throughout the countryside, and particularly within the commuting radius of each large city. A large percentage of the birds seen at the poultry shows come from small, home plants, and are bred largely for recreation and pleasure.

It isn't necessary, though, that one should have show birds or to exhibit them, in any event. Many amateurs own fowls which might easily prove prize winners, yet never show them. The first important point in assembling a flock of poultry which will delight the eye is uniformity. The average farmer's flock is a mixture of many breeds and many colors. Some of the cocks are dressed in hues that would rival those of the famous coat which Joseph wore before his brothers sold him into Egypt. By turning a variety of breeds into the poultry melting pot, the farmer thinks he gets more eggs. What he actually gets is a mongrel flock, the sight of which is sufficient to rob any man of whatever poultry-keeping enthusiasm he may have acquired. It is possible that a first cross of pure-bred birds may give extra prolific pullets, but these pullets should never be bred from. Their progeny will be scrubs. That is where the farmer's system fails.



Those who complain that chickens are uninteresting never saw the expression of personality upon a Plymouth Rock cock objecting to an intrusion in his harem

A dozen or more hens of the same size and marked practically alike in every way, compose a picture worthy of being put on canvas. Place them on a green lawn or in a clover field or a patch of rye and the setting is complete. The only place where they do not look well is in a garden, the reason being obvious to those who know what a hen can do with her feet. White hens are especially attractive against a background of green, and white varieties of all breeds are always in high favor. The popularity of the White Leghorn shows no sign of being dimmed as the years go by. As an egg machine she is without a rival, as the admirers of all breeds have had to admit. On the private place, though, she is found to possess several faults. She is extremely nervous, much averse to being petted, can fly over any ordinary poultry fence, and makes only a mouthful when she goes to the table at the end of her career.

Two other popular white varieties, the White Plymouth Rocks and the White Wyandottes, are much larger, and are excellent for the table. The White Rock, in particular, is a prime favorite with growers who are fond of roasting-chickens. Both Rocks and Wyandottes are stylish and very handsome when well bred. The snowy feathers of some specimens are almost unbelievably white, while the plumage has a texture which is delightfully soft and fine. These birds are easy to confine, and lay well, but their eggs are brown, a point which counts against them in some sections.

White Orpingtons are of English origin, along with all the Orpingtons, and are such all-round good birds that they have won a large following in the face of a powerful national prejudice against pink legs and white skins. Of course, there are no grounds for this prejudice. If there is any difference at all in the meat, the advantage is on the side of the birds which have light skins. Your French gourmet always picks out that kind.

At any rate, White Orpingtons are to be found on the grounds around hundreds of handsome homes in suburban and near-suburban communities. They seem more popular there than in the rural districts, where, possibly, the prejudice mentioned is not so easily broken down. All the Orpingtons are exceedingly attractive, and have much to recommend them. They lay brown eggs, but often not very dark, and they lay generously. They use their wings but little, and become very friendly with the man or woman who keeps the feed-box full. Black, buff and blue varieties are bred in large and increasing numbers. It would be difficult to discover a more stylish-looking bird than a great Buff Orpington cock. Blue Orpingtons are new, but seem to have come to stay. Just now there is quite a fancy for birds with slate-colored feathers, passing for blue. For many years the Blue Andalusian alone boasted this color, but it appears even among the Leghorns now.

Blue Orpingtons were secured by crossing black and white varieties, a noted English breeder, with a farm in Kent—Mr. R. C. Gilbert by name—being the originator. The first stock imported to this country was brought over by W. H. Depper, of Lincoln, Mass. The Blues have the same characteristics as the other Orpingtons, and are exceptionally ornamental. They make a little less striking appearance on the lawn than the white variety, but they show up well when yarded, and are very docile. All dark-colored fowls have some advantages over those with white plumage. Their feathers are not so easily soiled, and they are much to be preferred in sections where red clay abounds or where there is any other kind of earth which has a tendency to make stains. When confined in winter, white birds are pretty certain to become soiled, unless an abundance of fresh straw is kept on the floor. Then, too, white chickens make a conspicuous mark for hawks, and are very often gathered in by those predatory birds if allowed their liberty.







Well-bred stock in poultry has as much attractiveness as among horses and dogs. Here are three thoroughbreds of good sort; chickens of these families lay well and are good general purpose fowls. Above, White Leghorn; left, Black Minorca; right, Silver-Spangled Hamburg

While Sicilian Buttercups are not new, like the Blue Orpingtons, most people have never even heard of them. Yet they are making friends at a remarkably rapid rate, and much is being said in their favor. The unique characteristic of the Buttercup is its comb, and it is that which gives the breed its name. This comb is large and cup-shaped, with points around it like those on a crown. It looks something like a full-blown flower, which led an imaginative breeder to add the Buttercup appellation. The breed hails from Sicily, and one Capt. Josephus Dawes is reported to have made the first importation many years ago. It seems that he bought the birds to supply fresh meat on the voyage home, but they averted the fate he had intended for them by producing eggs with surprising regularity. The captain took them to a farm



A Blue Orpington hen, a recently introduced strain of value

owned by him in New York State. Later another American breeder brought over some Sicilians, but for a long time they were bred in the most limited way. Their eggs are white and of good size. The hens are not persistent sitters, and, although not as large as those of the American breeds, are large enough to supply a meal for an average family.

For an all-purpose fowl, it is difficult to surpass the Rhode Island Red, strictly a native breed. No poultry lover can gaze upon a uniform flock of mahogany red birds of this breed without uttering a sigh of admiration. Well-bred Reds of exactly the same shade are wonderfully satisfying. To get a flock of this character is an achievement of which any man or woman may well feel proud. Rhode Island Reds are notoriously hard to breed to type. Only by carefully weeding out all the chickens which do not develop the proper shade can the color be kept uniform. In many flocks a wide variation in shades of red is to be seen, and the effect is not good. The right kind of Reds are splendid, but skill and patience are required to get that kind. If you buy them, and want the best, you will be called upon to write a check, the size of which may surprise you.



In a properly-kept, properly-fenced yard, a flock of birds is a most attractive and interesting sight

Years ago, Light Brahmas were high in favor, but fanciers experimented with them until they lost much of their stamina and hardiness. A few good flocks were maintained in different parts of the country, however, and the breed seems to be coming into the limelight again. The Brahmas are magnificent birds, mammoth as to size, and particularly good winter layers. A two-foot fence will confine them and they seldom wander far. Their black and white plumage is very handsome, and a flock of Light Brahmas is highly ornamental when seen on a lawn. Having feathers on their legs, they are not adapted to situations where they are likely to get into mud, and their houses must be kept clean. Few fowls are tamer or easier to handle, and when dressed they yield almost as much meat as a turkey.

Black Langshans have many of the characteristics of the Brahma, but are not quite so heavy. They are most aristocratic-looking birds, with their rich, glossy plumage and their high carriage. They, too, have feathered legs, but, unlike the Brahmas, they have light-colored skins. Black Langshans are very friendly and content to stay near home. They are good fowls in small numbers for a village poultry plant, and are certain to attract attention because of their striking appearance.

Quite a different sort of bird is the active, high-stepping Cornish fowl. Cornish Games the breed used to be called, but that name conveyed an entirely erroneous impression as to the character of the Cornish fowl. It is not a militant bird at all, but a good, sensible, practical breed. Although the Cornish fowls are good layers of dark-brown eggs, they are more famous as meat producers. The amount of fine, white meat they carry on their broad breasts is astonishing. In appearance the Cornish fowls are unique, for their legs, placed wide apart, are short and thick; their necks are short and their backs are wide, while the tail is nothing to brag about. The newest variety, the White Laced Red, is quite as ornamental as it is useful, and that is saying much. The development of the breed has not been haphazard in any sense. Every characteristic was thought out first, and then attained by persistent effort. Years of work and the closest application are required to make a new variety like this one.

(*Cont., page 232*)



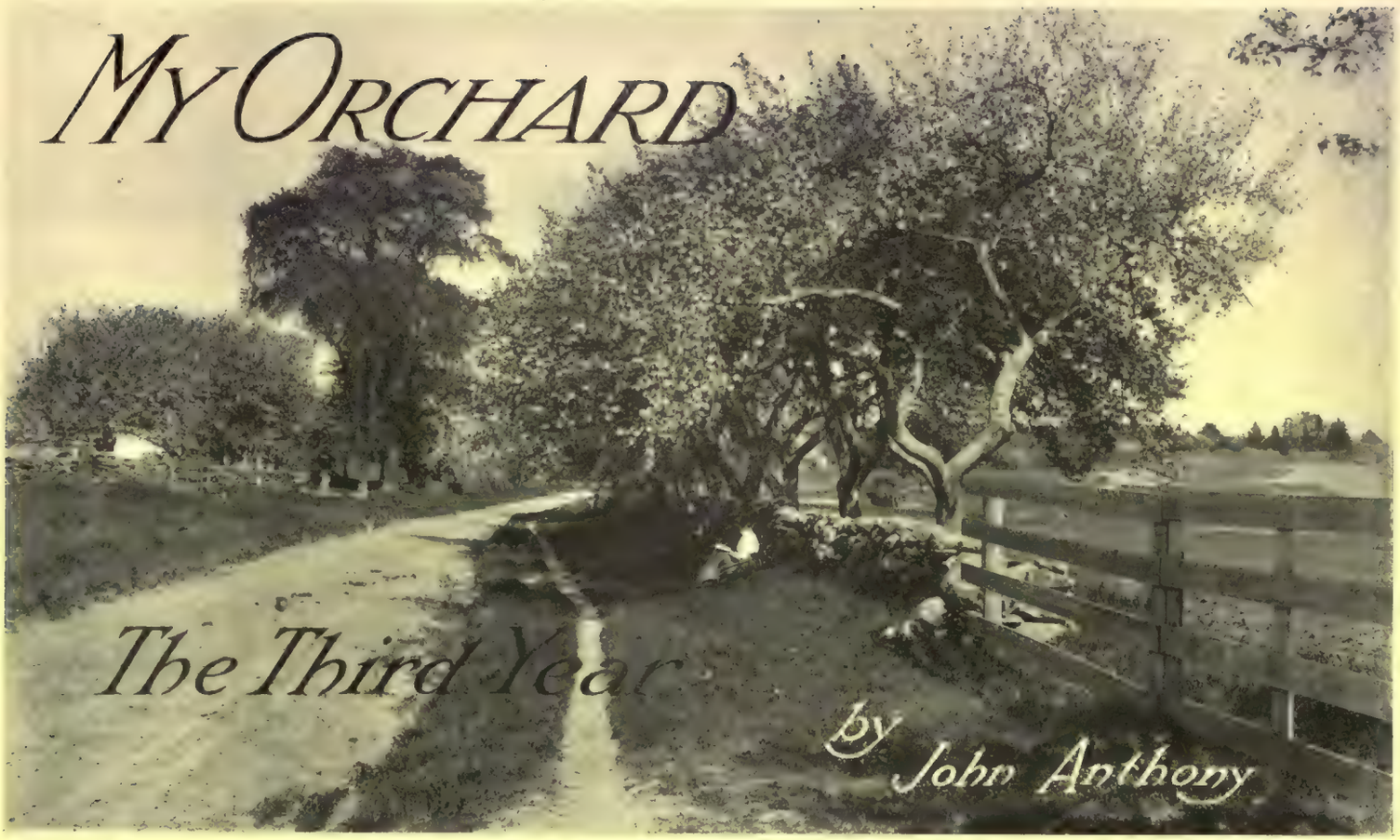
White-Crested Black Polish hens have not only attractiveness of form and feathers, but also value in use



The White-Laced Red Cornish belongs to another gorgeous race with feathers of red laced with white



White Rocks are handsome birds and the chickens are favorites for roasting



EDITOR'S NOTE: *In* 1912 HOUSE AND GARDEN *published the story of John Anthony's first attempt at orcharding. Last year again he told the fascinating story of his labors. This article tells what the third year brought forth. In these beginning years of his venture, John Anthony has combatted all the unfavorable circumstances of weather and bad luck; yet he is winning. This means that he is accomplishing a great service in revivifying the deserted villages of the East. His undertaking is of tremendous importance to this country and it bears watching.*

WE have not died of *ennui,* as so many of our friends predicted when we left them to come to this far-away farm, but we are finding more vital interest in life every day that we are here. We are developing an orchard, bringing renewed youth to the old trees and making the young ones fairly sprint in their race toward bearing age. We are making a home, at once individual and worth while, and linking our interests in this hill country with the outside world. Success is in sight; we have only to keep up the pace. Health, hope and courage have already come to us.

I came to this region of abandoned farms because I was tired of the restrictions and thraldom in which my part of the world had held me, and any change seemed desirable. I shut my eyes to the seeming isolation and the consequent loss of mental stimulus, willing to pay any price for peace and rest from the hubbub of the juggernaut of to-day.

Whatever chance there may have been for the latter condition was removed by the coming of Mrs. John. She thought that she, too, was tired of the things she knew. She was—temporarily. Up here her eyes saw the lacks and lapses which mine did not, and she straightway undertook to change them. First she began on me. She declared that she was in love with the John she knew from his writing, and didn't have the remotest idea of caring for the man she found me to be. John, of the pen, was inspiring; he carried her to the clouds, and with him she was content to live in a hovel, but she wasn't going to put up with a man who didn't ooze optimism and have a continual supply of faith sufficient for two.

When we drove up the hill to this orchard, which was the pride of my heart, her spirit sank within her. In five minutes she was in tears. The promise of the future she could not see. Trees were trees to her; the fine points of pruning, the dark green foliage of health in the old orchard, and the vigor of the youngsters on the hill above them did not impress her. She saw only the need of paint and plaster; the lack of furniture and furnishings. She must have *things,* and have them right away. A rug and new shades were more important in her eyes than the fertilizer for the trees which were to provide the money to buy them.

For months there was an undertone of unhappiness, the reason of which we could not fathom. Often it happened that after a drive to the village or through the country, we would return submerged in gloom. Abandoned farms mean abandoned farmers,—a community given over to hopelessness. An air of gloom and dejection pervades the place. Unpainted buildings, chickens running in the front yard, farm machinery left out in the rain, unkempt gardens met us everywhere. Even at home we saw some of these things, and Mrs. John feared that I had fallen into the rut of not caring. It began to dawn on us that we had not only to lift ourselves, but our surroundings as well, up to the land of hope. We must supply the enthusiasm, the life and vigor of everyone on the place. So we began to cultivate enthusiasm as assiduously as we cultivated our cabbages. The response was prompt, but even yet things were done only as we supplied the initiative. The very men who helped to plant and harvest our potatoes bought their own supply from us; the helpers in the orchard and the packing house got their apples from us, although they all had land and bearing trees of their own, and could not afford to buy. They lacked the energy to plant and spray and harvest.

This is not intended as an indictment of the farmers around us. Few people are able to rise above their environment, and the very ones who merely exist in a listless community would be wide awake in a region of activity. Few country people have the

(*Continued on page* 200)

THE GARDEN CLUB



EDITOR'S NOTE: *The garden club is a great factor in neighborhood betterment. Here is a true story of the work of a certain such club and its accomplishments taken from the diary of one of its members. What this club actually did should be a stimulation to all who love gardens and a guide to the ways and means of improving our towns and villages. The first chapter in this department dealing with the organization of the club appeared in the February issue.*

CHAPTER II

THE first thing we did this blustery, wintry afternoon at Mrs. Denton's, on the occasion—(to speak by the book; I am getting a fiend for order and due form)—of the regular monthly meeting of the Garden Club, was to listen to the report of the Program Committee—and then accept and adopt it. And I have been one of this committee, so I can assure you, if you need assuring, that this report was carefully prepared, and that said committee has a job that is no sinecure. Indeed, I think I never labored so over anything in all my life as over these programs, trying to make everything fit in with everything else, and worrying about getting everything *in* and in the right and timely place! Oh, what a task!

We had, of course, to announce immediately the dates for all the shows and competitions for the entire year, so that everyone might be making preparations accordingly; and then we had to lay out in a general way subjects that would be at least first cousin to each of these shows, for the month in which each is to come. And then we had to think about getting everything else that should be considered by such an efficient organization as ours is to be, in the place where it will be most helpful—which does not mean always in *exactly* the timely place, for, of course, much in garden practice has to be so forehanded that one loses account of actual time altogether—at least, I do.

But that's another story; the rules and the program for the year are the things I must hurry up and get down while it is all fresh in my mind, so I may be sure of having it right for the printer to-morrow. For we are to have it printed, and every member is to have a copy, and then we are all supposed to keep them hung up or somewhere convenient for consultation—and to govern our gardens and ourselves accordingly.

PROGRAM OF EXHIBITIONS AND SHOWS

April.—Exhibition of bulb flowers.

1st prize for best showing of greatest variety.

2d prize for best flowers; any one variety.

3d prize for earliest flowers.

May.—Exhibition of German iris and peonies.

1st, 2d and 3d prizes for each.

June.—Rose Show—Japanese iris to be shown also.

1st, 2d and 3d for best six roses, one variety.

1st, 2d and 3d for best six roses, more than one variety.

Special professional growers' prize of $5 for best display, one or more varieties. (Open to members' gardeners.)

1st, 2d and 3d for iris..

1st, 2d and 3d for best display, any other hardy flowers.

Prizes are offered by individuals in the Club as follows:

For the best quart of strawberries—A book on small fruits.

For the best peck of green peas—One dozen carved garden stakes.

For the best pansies—A cut glass pansy bowl.

For the best assorted vegetables—A gathering basket.

On or about June 15 the first visits for judging of gardens and material in the competitions will be made. Last day for entry, June 10.

July.—Exhibition of sweet peas.

On or about July 15 second visits by judges in the competitions.

August.—Exhibition of annuals.

1st, 2d and 3d for best general exhibit.

1st, 2d and 3d for best showing, any one variety.

First showing perennials raised from seed; each entry to consist of six plants in pots, with date of sowing, variety, and all necessary information given.

On or about August 15, third round of visits by judges in the competitions.

September Harvest Show.—Any and all garden products.

Fresh flowers, fruits, vegetables; canned fruits, vegetables, jellies, wines, syrups, etc.; 1st, 2d and 3d in each division.

1st, 2d and 3d for best collection fresh vegetables in carrier basket.

Special professional growers' prize of $5 for best collection of the show.

Prizes are offered by individuals of the Club as follows:

For the best six egg-plant—Collection of 12 hybrid tea roses.

For the best six heads Savoy cabbage—Dollar's worth of seed,

(*Continued on page 202*)



MAKING A NEW HOME FROM AN OLD HOUSE



PART II—THE ALTERATION OF THE HOUSE INDOORS—VALUABLE PRINCIPLES OF REMODELING—HOW PROPER PROVISIONS WERE MADE FOR HEATING AND LIGHTING

WHEN we bought our house six years ago there were several alterations to make and a few additions, and three weeks only to do it all in; by that time our furniture had to be away from the New York apartments. Such weeks of confusion as they were. We thought the dirty work should all be done before the furniture arrived, and, intending it to be our home all the year 'round, a heating system had to be installed; electric light seemed a necessity; much of the window glass was broken and the sashes stuck with paint; several recently cut doorways were to be blocked up, and D. wanted two bed-rooms thrown into one so the summer wind might blow through our room from end to end.

Four posts that supported the central part of the house were of soft wood and, perhaps, unsound; the girders resting on them seemed to have settled somewhat, for diagonal cracks showed in the walls of the central hallway. Consequently, jack-screws were set in the cellar, one under each of the central girders, and the weight bodily lifted from the old wood posts. While the men were at this below, I walked from room to room, and had the satisfaction of seeing the cracks gradually close. An inch or two we must have raised it; we went as far as we dared, but if I were to do it now, I should be less timid, and "jack" until a mason's level showed the floors absolutely true.



The remodeled country place has the advantage of grown foliage among which a garden may be slowly developed without the distressing business that the owner of a new house has to contend with

It seems that in old houses like this the floors are generally somewhat sunken in the center, for the outer stone walls remain rigid and the interior wooden posts have been renewed once or twice perhaps, and the new posts not wedged up quite tight, so when the old are knocked away the girders settle a little. Such a process had occurred here, and, determining to end it, we installed six cast-iron columns taken from a hotel that was being torn down. The house will not settle again.

Electric wiring was extremely difficult. The floors were of wide, two-inch planks, each tongued into a groove in the edge of the next, so they could not be opened without damage. The oak framing of the outside walls was filled solid in brick with no opening places for the wires; at the level of the second floor there was a heavy sill or girt in both outside walls and partitions, so wires could not be "fished" or pulled up from below, as they can be in a modern house. I doubt the wisdom of wiring such a building; there is too much cutting. Candles and lamps have their attraction; but perhaps this is only a man's point of view.

The steam fitting was comparatively simple. With the exception of the kitchen, there were four chimneys of two flues each, and but seven fireplaces; *ergo*, there was one empty flue, and the chimney problem was solved. For safety, we opened the front of the flue from the cellar to the second floor and lined it with the standard rectangular terra-cotta pipe known as "flue-lining." The vertical steam risers we ran through the closets whenever we could, or in angles of the chimney-breasts. We tried to place all the radiators where they would not be conspicuous.

Two great Baltimore heaters had been set in front of the dining and drawing-room fireplaces and the openings boarded up behind them, so these, of course, we could remove. The mantels, fortunately, had never been damaged, and, after we had been in the house six months or so, a discovery was made concerning them, which, like every unexpected find in an old house, was disproportionately exciting.

One morning I was tinkering with the boiler in the cellar when I chanced to see what seemed to be several pieces of thick slate apparently coated with stove-blacking. I was at a loss to account for them; curiosity led me to rub off a little of the blacking, and I was surprised to find I had uncovered a piece of beautifully veined



The white treatment of the hallway makes an effective foil for the dark furniture and mahogany banisters

gray marble.

Now, it seemed to me the drawing-room hearth was of just that peculiar marble, and I took the piece up for comparison. It proved quite the same, and, moreover, it corresponded in width with the facing, at that time a plastered affair, with crude blue stenciled designs. Excited, I called D. How we ransacked that cellar! Several more pieces came to light, and some of them were of brownstone like the dining-room hearth. It was the most fascinating of cut-up puzzles! In the end we had the uprights of the dining-room facing entire and those of the drawing-room, with the exception of a fragment two inches long or so. What had become of the lintels puzzled us.

A few days later D. called me to the kitchen.

"What on earth is that flat thing they've put under the range?" she said. "Can't we get it out?"

With a table-leaf I pried up the range an inch or so and pulled it out, and another like it.

"The lintels!" we shouted. "Yah! Hallelujah! We've found 'em!"

We capered about, idiotically, enthusiastically!

Black they were, but unbroken. Ah! we knew the excited joy of the archæologist who, digging through buried cities, finds a strange inscription or a perfect bas-relief! What was the history of those facings? Were they taken down merely to serve as foot-stool for an apathetic kitchen range—modern ingenuity victorious over ancient æsthetics? Well, Art came into her own again, and the old facings are now where they belong.



Repeating landscapes in various tones of gray were selected as the wall-paper pattern most consistent with the color scheme and most appropriate for the dining-room of an old house

As to the foundationless range, it developed that a new floor had been laid, lapping over the old stone hearth, so we took it up and exposed the gray, flat stones. The wide fireplace had a curious set of wooden doors, doubtless closed when the fire was not lighted, to keep ashes from blowing into the room. The new floor held them shut, and when it was cut away we opened them. There was the old fireplace just as it used to be; the great iron crane hanging in sockets let into the side wall. It was so curiously interesting that we resolved some day to build another kitchen and turn that into a smoking-room. Meanwhile we use the great fireplace for ventilation. The doors were lifted from their hinges and the range set back into the opening, which is so high that it acts as a hood to gather the cooking smells and draw them up the chimney. The iron stovepipe is carried to the top, and heats the air around it, causing a steady draught up and out from the kitchen. The new position of the range gives more room, too, and all without destroying the old work in the least. In fact, we could restore the mantel-shelf where it had been hacked away for the stovepipe and plaster up the hole above where the pipe had entered the flue.



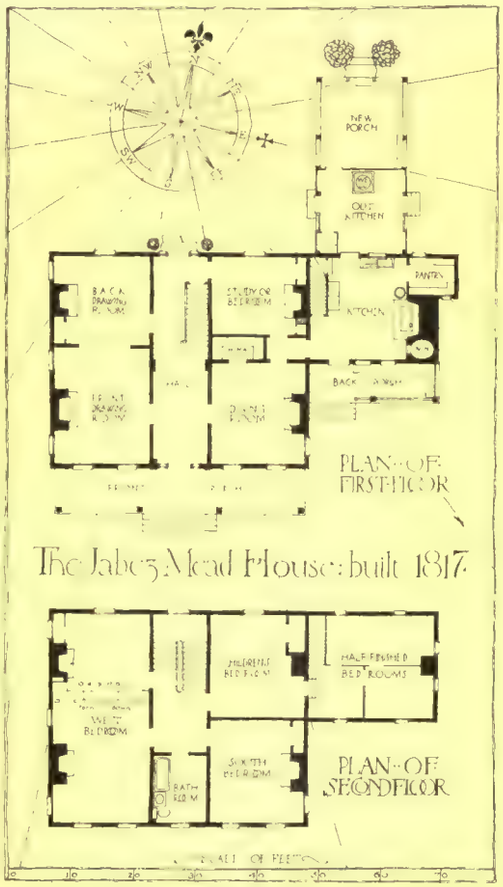
From beneath the kitchen stove were unearthed the marble slabs that once framed the fireplace opening

Those early days of housekeeping! How enthusiastically we plunged into restoration and development! Layers of paper were stripped from the walls, and we painted them or hung new paper more in keeping. D. was the motive force in all this. My interests were rather out-doors, so when something appealed to her

irresistibly she forced the situation. The hall had been hung in a green burlap, which I pretended to admire because I thought we had done enough to the house for the time being. D. used to tweak any loose corner when she happened to think of it, and it came loose so easily! One day she tore off an entire side wall. That settled it. I had to acknowledge defeat. I confessed that the queer forms and long, tenuous points that it brought out bothered me, too, above the arch over the foot of the stairs, for instance, and the triangle at the side of the first flight. Samples of many wall-papers were tried before we learned that the finest treatment was in pure white with the dark color of furniture and banisters silhouetted against it. It is several years now since we painted it white; long enough to convince me we were right in eliminating all papers or colors.

The dining and drawing-rooms did not present the same difficulty. The windows paneled beneath to the floors; the doors and the mass of the mantel each was a rectangle resting on the floor; the ceiling, with its delicately moulded cornices, of course, horizontal. With no difficult elements there was a wide choice in wall treatment. The dining-room is now papered in pale gray and white with foolish little repeating landscapes such as old papers have; the floor is gray, and the only colors are in the rug; the various platters hung on the walls, the mahogany of the furniture, and perhaps a mass of flowers on the table. The table was the rankest yellow oak, but many coats of white paint have done away with that; a little scheme of D.'s, I think, to eliminate ponderous table-cloths.

When many layers of paper were removed from the drawing-room walls, the plaster proved to be rough-sanded and colored a warm yellow-ochre, with that singular clearness colored plaster acquires when the pigment is mixed with it before it is troweled on the walls. This was too rare and beautiful to cover with paper, so we let it remain, and worked through one Sunday afternoon painting out various white smears and patches with yellow water-color. The ceiling had always been white, and the painters were none too careful with their splashings. The effect was altogether pleasing.



Both wing, ell and porch were later additions to the original building

It is a large room, but we had a carpet which seemed sufficient for it, of a dull, warm pink that harmonized perfectly with the wall color and with several Eastern rugs destined to go there. Accordingly, the carpet went to the cleaners; but it returned a pale solferino hideously out of key with everything we had. What they did to it I do not know. We washed a small piece and a lathery something seemed to exude. A day's bleaching in the sun turned the piece a soft golden brown! This was not at all what we wanted, of course, but if it turned from pale solferino to brown, then in between it must have reached the warm, dull pink desired. Accordingly, the entire carpet was spread on the grass, a hose played on it for two hours, and then left in the sun. The lathery washings killed the grass, but the color softened gradually until it was just as it had been originally.

Then a new difficulty developed, for there was not enough of it by ten yards! The double drawing-room is enormous, and of course it was impossible to buy more of exactly the color. Finally, in laying it, to make the most of what there was, we left out great squares where the rugs were to go, and nailed quilted paper there. The rugs cannot be moved without a sad display.

The old mahogany chairs and sofa seats upholstered in warm pink velour or a delicately colored brocade, are in perfect key. The color scheme is:

Warm pink—carpet, chairs;

Warm pinkish brown—rugs;

Dull yellow ochre—walls;

White—ceiling and woodwork;

Mahogany—furniture;

with small accents of black and clear colors in vases or the details of hangings. The one large painting in the room happens to echo all these colors; it is ap-

(*Cont., page 207*)



Since the amount of carpet available was not enough to cover the whole floor surface, spaces the size of the main rugs were left uncarpeted. When the rugs were down this was not noticeable



Plants started in pots may be set out in early spring

A Bounteous Garden in One Plant

THE WONDERFUL DEVELOPMENTS IN SWEET PEAS THAT HAVE GONE TO PRODUCE THE GREAT IMPROVEMENTS IN FORM AND COLOR NOTED RECENTLY—HOW TO GROW THEM SUCCESSFULLY, WITH HINTS TO FORM NEW VARIETIES

BY MARY RICHARDS GRAY

Photographs by Courtesy of C. C. Morse

EASY to grow, taking but little time and care, and providing a wealth and variety of fragrant blossoms all summer long—that is the sweet pea.

Twelve years ago it was a little, stiff, inconspicuous flower; now it is so improved that it may be called "gorgeous." Its colors run through most of the tints of the rainbow in wonderful diversity (with the possible exception of deep yellows, pure blues or deep scarlet), although it is said that this last year has achieved this shade.

When he picks up his catalog, the beginner will probably be confused by the terms "Grandiflora," "Unwin," and "Spencer" varieties. Perhaps a word or two may enlighten the amateur. You know the flowers of the locust or the wistaria; that was what the original sweet pea was like. It was of but two deep colors and had generally two flowers on a stem. To understand the improvements made in this flower you should know what the technical terms are. The standard is that part of the corolla raised upright as a background for the rest of the flower; two petals more fold over or droop, and are known as the wings; between them, sometimes concealed entirely, is the keel. It looks like a boat keel, and is composed of two petals inclosing the stigma and stamens, which are curved upward. In this inconspicuous original flower the keel was closed, and cross fertilization was impossible. The flowers were developed by seed selection, and from this type the first improvements were made, chiefly to get color variation. These improvements were known as the grandiflora variety.

At about the same time experimenters caused still further variations. The smooth standards of the original type, which were flat and erect, lost their rigid lines and became wavy and drooping. The wings, which hung over the keel, also became wavy, and the segments inclosing the flower organs expanded until the stamens and stigma protruded. This was the Spencer type, now most assiduously sought after and of astonishing variety and beauty.

The Unwin type, developed about this time, has wavy wings and standard, but the keel is closed, as in the original form, and so this variety is not possible for experimentation in cross fertilization unless by adepts.

These are the main types. We will speak about some of the standard varieties later. Before the inviting prospect of developing your own varieties presents itself you should know something of the culture of the flower. Its requirements are simple, but imperative. That soil which is rich and porous, which will not bake or pack tight, is desirable. Sometimes it is called a clayey loam. But it should be well worked and porous and not contain surface water.

Trenching is the commonest planting method. Make rows about four to six inches apart, and dig a ditch from two feet to thirty inches deep and two feet wide. The soil at the bottom is probably



Paper pots are valuable for planting in cold climates. The seedlings are in no way disturbed when set out



Wire netting nailed behind the rows makes a desirable sweet pea support



The majority of growers find greatest success with hazel boughs or brush



Mrs. Hugh Dickson, a delicate cream pink Spencer of the finest type, graceful, but not too loosely formed



The original type bore but two blossoms to a stem. This is Margaret Madison, with four, an exquisite pale lavendar

a preventive against cut-worm pests. This is often done in the fall, and is ready for either spring or fall planting. The recent developments of soil inoculation are of value wth the culture of sweet peas, in that the qualities of nitrogen fixing bacteria that may be purchased add materially to the growth of sweet peas—a leguminous crop.

Next for the actual sowing. Very often the seeds are sowed in the autumn and lie dormant until spring awakes them. They are sowed about five inches deep and thicker than the spring sown. When sown in the spring they must be put out as early as possible—as soon as the soil can be properly worked. If a small trench is run, about four inches deep and of a little greater width, and the seeds are scattered thinly over this area and then firmed tightly, good results will follow. But the latest system to be developed with considerable success is pot sowing in the ordinary three or four-inch pot, using a lighter soil than that where the plants are eventually to grow, sowing four or five seeds. In the greenhouse, a well-protected cold-frame, or a mild hotbed, these pots may be set out toward the end of the winter. Greater warmth will cause the early flourishing of the plants, but they should be kept as stocky as possible. These may be set out from the middle of March as late as the first part of May at intervals, so that there may be a succession of bloom. Begin early, but not recklessly early. Without disturbing the roots, plant these clumps from the pots in the prepared soil. Allow about a foot and a half between clumps. With the new paper pots the plants may be thinned out in the cold-frame to the standardized growth, and then put in a permanent position without disturbing the roots. When sown outdoors, thin the plants to distances of five or six inches apart — space counts for strong growth. When pots are set out, or when spring-planted seeds need thinning, prepare your supports. The majority say use brush. Twigs cut from underbrush are decidedly successful, and the vines clamber over them until they are well covered. Chicken wire stretched behind the rows is winning in favor. It it, at least, a little less disorderly. The advice, "buy the best seed from reputable dealers" is truly worth while with sweet peas. The slight extra expense is a saving, and do not blame the dealer for some lack of results. You may find that the seeds themselves need chipping or soaking. The darker colored flowers have extremely thick shells, and when spring planting or planting in pots is resorted to, this shell should be chipped with the knife, exposing the embryo, but being careful not to cut the elementary rootlet part. Some soak the seeds in hot water over night and gain good results. For fall planting this is not necessary.



A recent prize winner, the new cream pink Margaret Atlee. Note how loosely flowing and wavy are the standards and wings

When the plants are once up, all your care is a little stirring of the soil; frequent and copious applications of water and liquid manure at intervals. The enemies you need to combat are aphids and mildew. Your tobacco emulsion will drive away the aphids, and a dusting of soot before flowering and once a month will act as a mildew preventive. Attack mildew with Bordeaux Mixture.

A final warning: When you seek for the garden position of sweet peas, don't stick them up against a brick wall where they will be burned in July and August, and let them have some little shade during the "dog days." Also,

(*Continued on page 221*)



The simple lines of an Italian adaptation give an exterior that forms the base of a design to which vines and foliage will give a beautiful completion in after years



As the exterior is simple, so is the interior, but there is the added beauty of fine woodwork to grace it

Homes that Architects have Built for Themselves

THE SUMMIT HOME OF MR. MAC NEILLE, WHEREIN IMPORTANT PRINCIPLES FOR HOUSE COMFORT ARE REVEALED—THE VALUE OF TAKING TIME AND USING THE BEST MATERIALS

BY PERRY R. MACNEILLE

IF I were asked what I could claim most confidently as the supreme merit of my house, I should say its restfulness and its complete suitability to my family's requirements and mode of life; it fits *us,* and we feel "at home" when we are in it.

It is not my intention to dwell upon the features of the house, which I regard as beautiful, as beauty is so much a matter of personal taste and must vindicate itself without argument or defense. As Prof. Ware once said: "To those who prefer mince pie it is useless to argue the finer flavor of apple pie."

The simple lines of the Italian design of the exterior form for us the base to which we can add, as the years pass, the different shrubs and trees that will complete a design of which now only a part is finished.

The house has been placed so that it has an extended valley view, and the grading around it has been done so that on two sides one can step directly upon the lawn from the windows or the piazza. On the other two sides the ground falls away so that ample windows light the cellar rooms, and even a garage is made possible underneath the dining-room.

Extreme simplicity characterizes the planning of the house. The



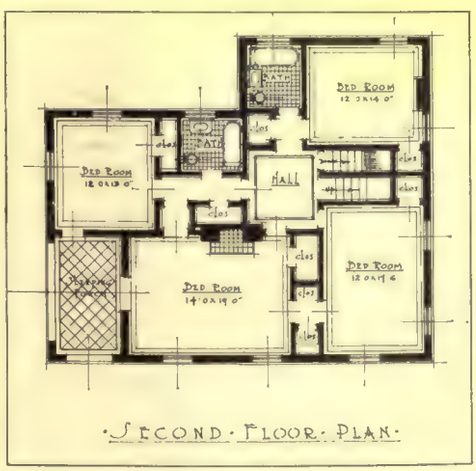
The living-room is finished in soft brown, which makes an excellent background for tapestry hangings. An interesting feature is the built-in bookcases flanking the window. Italian furniture is in artistic harmony with the house design

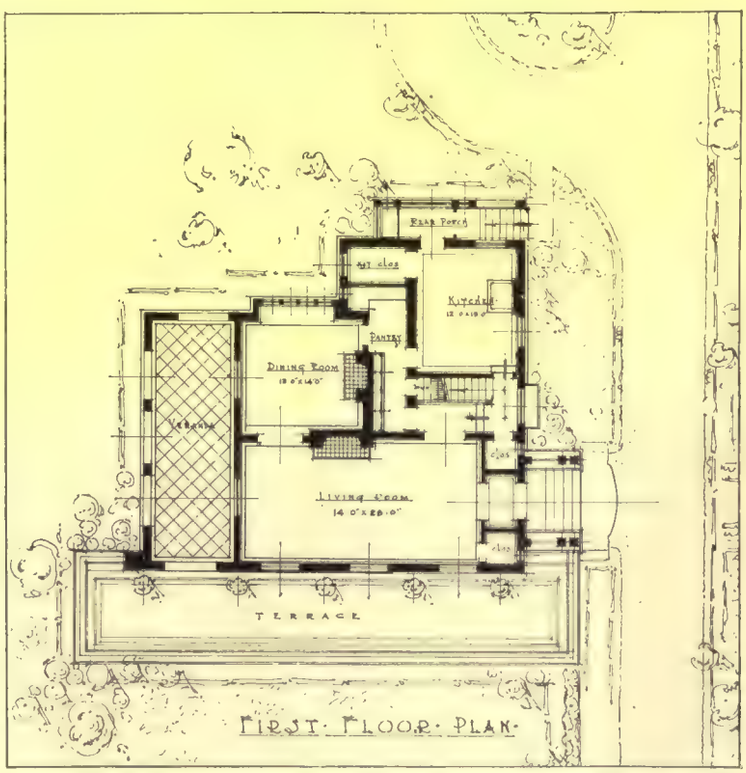
rooms on the first floor are few, but well shaped, and the waste space of excessive halls and passages avoided.

The living-room with soft brown walls as a background for tapestry and paintings, book shelves filled, as our friend said, with everything from "Happy Hawkins" to the "Geological Survey of New Jersey, and furniture brought from the old houses of Italy, is to us pleasing and restful. Others may prefer greater profusion, chairs more comfortable and less artistic, and colors more stimulating and vivid.

To the planning of the practical portions of our house we gave great thought,—not only my wife and I, but my partner. In fact, he was pestered to such an extent that he claims I was the most troublesome client the office ever had, and that if our other clients were like me we would soon be driven from our profession.

This minute study and thought on our part has





Examination of the plans reveals an absence of waste hall space and a great convenience of arrangement, some of the elements of which are: No projecting closets, cupboard shelves accessible from both kitchen and pantry, and windows on both sides of all rooms



There is a considerable decorative quality in the window disposal, which does not conflict with utility. Such shutters have the added value of awnings



Recessed tympanum arches in the doorways and lower windows give a simple decorative quality in their shadow lines. The architectural ornament is well chosen also

not resulted, I think, in a better house either artistically or in general plan, nor has it produced a house of increased value to anyone except ourselves; but it has resulted in a house that fits the requirements of our family and of our mode of life almost perfectly.

The sleeping balcony is sunny; has the choicest view, and is at the same time sheltered from the storms. It opens from and is equally available to a bedroom and the upstairs sitting room, and has a waterproof floor of cork composition, which is warm to step upon.

The butler's pantry is commodious; has a sink set high enough to avoid stooping over it, and has some of the shelves arranged with double doors, one set opening into the pantry and the other opening into the kitchen. This saves steps when the dishes are needed in the kitchen.



Sloping ground increases the cost of foundations, but gives light to basement rooms, and here provides enough extra space to be used for a garage beneath the dining-room

The kitchen has a concrete floor covered with linoleum, through which an ant, much less a mouse, can find no way. The kitchen closet has a window with a marble slab beneath for mixing pastry, and the rear porch is guarded and fitted with netting so that it can be used as an out-door pantry in the fall and spring.

Soiled clothes have a comfortable and speedy passage through a chute with openings on two floors into a well-ventilated and light bin in the laundry. The hot water passes from the kitchen boiler through an automatic gas heater that adds any heat necessary to bring it to a given

(*Continued on page* 206)

Crops of Quality for the Home

ROOT VEGETABLES AND THEIR CULTIVATION — PROPER SOIL CONDITIONS ARE ESSENTIAL — CULTURAL DIRECTIONS FOR CARROTS, RADISHES, PARSNIPS, BEETS, ETC.

BY D. R. EDSON



These root vegetables are all hardy growers and may be planted as soon as the ground is in condition

EDITOR'S NOTE: *In this series of articles the most important of the classes of garden products will be discussed from the standpoint of quality. Special points of culture will also be suggested, with a view to obtaining not only prime quality but a continuity of supply throughout the season. The first article in the series appeared in the January issue and dealt with the growth of peas. The article last month was concerned with the salad plants.*

THE various root vegetables, beets, carrots, turnips and similar ones, are easy to grow. But as a rule one finds them poorer in quality, compared to what they ought to be, than most of the other garden vegetables. Without doubt, one reason for this state of affairs is that, while green peas, string beans or cauliflower—once they have gone past the proper stage—can hardly be made use of, beets and carrots can be used, if the cook will boil them long enough, thus destroying any flavor which they may have had originally. There is no reason why the root vegetables, as well as the salad plants, should lack either in quality or supply.

The root crops require soil that is especially well prepared for several reasons. In the first place, the majority of them have, aside from the tap root, which strikes directly down into the soil, a feeding system composed only of comparatively short, fine rootlets, which cannot travel as far as can the roots of corn or tomatoes, for instance, in search of their food supplies. Then the soil should be so free from lumps or stones, and so finely pulverized, that the growing roots can expand freely and develop naturally without any restriction; otherwise, a very large portion of the crop is sure to be distorted or "spangling" in appearance. The quality of the crops may be injured further by the presence of deleterious substances in the soil, with which, as they grow deeper, they will come into direct contact. Fresh manures, decaying vegetable matter, such as that from green crops plowed under, and, in a number of cases, lime too recently applied are apt to cause scab or various sorts of distorted and stunted specimens among the root crops.



A constant supply of radishes, as tempting in appearance as in flavor, may be secured

Among the root crops are included, of course, those vegetables the roots of which form the edible portion, artichokes, beets, carrots, kohlrabi, onions, leeks, parsnips, potatoes, radish, salsify and turnip,—the kohlrabi being a sort of an outcast,—it is not a root crop in the sense of growing on or in the ground, but certainly one can designate it as belonging in the leaf crop class or in the fruit crop class. It is, in fact, a sort of an overgrown turnip, with ambitions in the direction of becoming a cabbage.

These root vegetables, with the exception of potatoes, are all alike in several respects. They are all quite hardy, and can be planted practically as soon as the ground can be got into condition; they are all planted in continuous drills,—rows quite near together,—12 to 15 inches for beets,—carrots, onions, radishes and turnip, and 15 to 20 for kohlrabi, parsnip and salsify,—the two latter especially should be put on rich soil 18 inches at least apart,—and even then the foliage will completely cover the ground. As all of these things may be put in at the same time, and with very little adjustment to the seed drill, it is well in planning the garden to put them together in one group. But the beets, carrots, kohlrabi, radishes and turnips should be placed next to each other, as they will occupy the ground but part of the season, and the succession crops can be sown when they are removed. The onions, parsnips and salsify, of course, will stay in through the entire season. With leeks, it is better to start them in a seed-bed and set out later. It is a good plan, too, where there is any choice in the matter, to have these things in that part of the garden which is farthest away from the house, as they are not gathered frequently, nor do they require as careful watching in regard to insects as the various leaf and fruit crops.

The soil for root crops should not be made too rich. There is no practical danger of getting too much phosphoric acid or potash, but a superabundance of nitrogen frequently will cause an excessive growth of top and a sub-normal root development. And yet these crops need nitrogen most during the early stages of development, when, on account of the cold in the soil, and the fact that the organic matter has not yet had a chance to decompose, there is usually a shortage of nitrogen. The result is that where a heavy application of manure is relied upon alone for the root crops they have too little nitrogen during the early stages of growth, when it is most needed, and too much when they are maturing, and do not need it. So you will find it a good scheme, in planning your vegetable garden, to rely largely upon commercial fertilizers for that part of your garden in which the root crops are to go. If you can, buy, or, which is better, mix up for yourself, a 4-8-10 mixture and use it on ground heavily manured preferably the year before or early in the spring, at the rate of 1,000 to 1,500 pounds per acre. And after the root crops are well under way, preferably a week or so after they have been thinned out, give a light application of nitrate of soda, the nitrogen in which is immediately available, to induce a strong start.

And also, as it is essential to have perfectly straight rows, the seed-bed should be made as fine and level as it can be by the use of a steel garden rake. Unless there is some good reason for not doing so, plant so as the sorts with very fine seeds, such as onions, carrots and turnips come next to each other. In this way they can all be planted together before the depth of the seeder has to be regulated for the larger seeds, such as beets, spinach, swiss chard and parsnips. The former should be planted only a quarter

(*Continued on page 213*)

Up the Hill to Our House

THE TRUE STORY OF THE JOYS AND DESPAIRS IN THE LABOR OF MAKING A HOME IN THE COUNTRY

BY MARTHA McLEOD



As a prime requisite, our home must look upon a beautiful view. Here, beyond as far as the eye could reach, rose hills draped in Autumn's most exquisite mantle

OUR house is built; we've lived in it long enough to have tried it out. Now, as I look back on the experiences we had in plodding up the rocky road to the making of a country home, I recollect many incidents—some mistakes, some successful short cuts—that may act as guide posts for the others who are planning for the delights of rural life.

Our search for a building site carried us far and wide. Our first requisite was a good view; then David wanted it to be within commuting distance; finally, the air must be bracing the year round on account of the children. Hence the nomadic pursuit of our ideal. But success, as often, came unexpectedly.

Three years ago, while visiting in a place noted for its farming lands, we started out for a cross-country walk, and finally found ourselves on a high hill almost surrounded by a valley. Beyond, as far as the eye could reach, rose hills draped with autumn's most exquisite mantle. I laid my hand on David's arm. "Look!" I cried; "Isn't this fairyland?" "It really seems as though by magic we have been led to the site for our home," David exclaimed, over the beauty of the view, and added with an air of bravado: "Within a month this land will be ours," and we went our way rejoicing.

I suppose if we had been old and prosy we would have carefully considered all the obstacles which might arise from living in such an isolated spot; and then have decided whether, for the sake of its beauty, they would be worth surmounting. Did we consider the outrageously steep and ludicrously bumpy road which could only be improved by giant dentistry and corresponding expense? Never. I will modify that—not until one of our neighboring landowners refused to pay his share. Did the question of water supply and lighting trouble us? Not at all; at least not until we tried to secure these necessities.

After we had bought the land—some six acres of meadow and woodland—the water supply was the first thing to consider. An artesian well had to be drilled at a cost of two dollars a foot. Scientists claim that the earth is largely composed of water. I wonder if any of them have tried to prove their theory by drilling a well. When the drill had descended 200 feet, and still no water, our spirits and money sank with it. We labored on, however, and on reaching 225 feet, water was joyfully declared, but to our sorrow, when the flow was tested, there proved to be a supply of only four gallons a minute. What should we do; drill immediately till water came and our funds had gone, or should we blast?

In the last case, only one of two things could happen; we would either have a bountiful supply of water, or the well would be ruined. I wildly suggested to David to leave matters as they were, and get along with the trickle of water from the well, and use the brook which lay 100 feet from the house down a steep hill, for our daily plunges. He looked at me anxiously to see if the strain had drilled a hole in my brain, and gently reminded me that the brook dried up in summer and froze in winter. When the morning arrived upon which we had decided to blast, I ran up the hill to be present at the crucial moment. I sat on a rock which we had placed in the center of the site where the house was to be. But was the house to be? That was the question: "To be or not to be," my brain kept saying, till suddenly there was a shock. A quick test was made of the flow.

"Oceans of water!" yelled the engineer; "Enough to drown you!"

We installed a 2,000 air-pressure tank, motor and a gasolene engine. When electricity was available we could joyfully discard the engine. We found that the mistake we made in our water supply was placing the tank at the bottom of the hill thirty-five feet below the level of the cellar floor, thereby necessitating a greater air-pressure in the tank to overcome the thirty-five-foot gravity, but on the whole the system has been satisfactory.

Now we could turn our thoughts to the plans for the house. With regard to its location, we were fortunate in every respect. The property lay due east and west, while the best view looked toward the northeast. Placing our house across the corner of the property, the length of the house ran northwest and southeast. Bringing the kitchen to the front, we gave the important rooms the best outlook, and, as the living-room and master's bed-room above took up the entire southeast end of the house, they commanded the distant view, the sun and the prevailing breeze.

We had spent many hours since buying the land in looking over books and magazines for suggestions for the house. This does not mean that our minds were barren on the subject, for everyone, from the cave dweller to the foremost architect, has had dreams of certain features which he longs to carry out in his home, and which reflect his character. I never remember having seen a thatched roof, except in the illustrations of Andrew Lang's Fairy Books, which I devoured volume after volume. The thatched roof, from under which might emerge either enchanted princes or witch, grew to be the symbol of all impossibly delicious romance.

"I want a thatched roof," I declared, but David reminded me that we were living in the Twentieth Century and one hour from New York. I was considered quite unreasonable, but during a visit to Long Island I saw a roof with shingles laid to imitate thatching. The style of the house delighted us, and for hours we sat on a fence opposite, mentally building our house and adapting many attractive details of the one before us. The trellis work around the windows, though as yet unadorned, was most suggestive of the tangle of roses to come. We decided that this style would be in excellent harmony with our landscape. Our architect worked out this idea, and then we turned our thoughts to the interior. I tried to describe by various wild motions of my arms the general plan for the living-room, hall and dining-room; also for the master's bedroom. David drew with his pencil more discreet and tangible figures of his special desires: the ingle nook, fireplace and wainscoting. Opposite the entrance we placed a French casement door, framing in this way an exquisite picture of hills and valley. Between the living-room, on the right of the hall and the dining-room on the left, I wanted a large doorway, so that, having felt the bigness of the wonderful outdoor world, we would not experience the cramped sensation which one so often does on entering the front door. I also indulged in surreptitious dreams of dances to which the ground-floor plan was so well adapted. The French casement door would also tend to mingle home and nature. The casement windows in groups of three on either side of the living-room, and the two small ones on the sides of the fireplace, allowed a breeze to circulate to cool one on the hottest summer day. Wishing to insure the absolute healthfulness of our home, we planned a cellar 8 feet deep under the entire house. It was well ventilated by sun and air from two windows, besides those in the adjoining laundry.



The house was finally placed on a hill, surrounded almost entirely by valleys

Our builder jocosely remarked that in an emergency we could have a good extra bedroom in the cellar. Though we doubted the capacity of the drains to keep it dry, we have since found that by placing traps in each drain the hardest rainstorm could do no damage. In some ways the attic resembled the cellar, being large and light, and covering half of the house. A generous part of my childhood days was spent in an attic play-room, and there, from my first steps, I valiantly followed my brothers in their gymnastic feats. Our children, we were determined, should know the same joy. Annihilating the rather miserly impulse to place two bedrooms in the attic, we left it free for the rope ladders, trapeze, shouts and rompings of the children. A most comfortable feature of the house was the arrangement of the master's bedroom and adjoining nursery. Instead of making a doorway in the wall, the rooms were entirely separated by closets. In my closet we put two doors, thereby allowing me to go into the nursery without passing through the hall. In case of sickness, both doors could be left open, or, on being closed, I had entire quiet and privacy. Another thing that made this even more complete was a door in the hall, closing off the master's suite. In this suite, besides the bedroom, was a boudoir, also a large closet or minute dressing-room, as one would wish to call it, and a bathroom which is comfortable in size and appointments. A sleeping porch opened through a French casement door from the bathroom. Here was a delightfully cool retreat on a warm summer afternoon, when the sun hid around the corner of the house. Furnished with pretty wicker furniture, plants and screens, it would tempt one to doze away many a sultry afternoon.

It is surprising how dependent one becomes upon the use of a porch of this kind for sleeping, and there are comparatively few months when one cannot take advantage of this refreshing outdoor rest.

The land on which our house stood was entirely unimproved; we therefore decided to consult a prominent landscape architect, that he might show by a planting-plan how to achieve the results of which we had an indistinct vision. It was money well invested, for with that I was able easily and correctly to lay out the grounds, which would otherwise have been most difficult.

An old stone fence would have to be removed to build the road, and where our future lawn was to be were innumerable stumps of dead trees, vines and stones. There were several huge mounds of earth which were left from the cellar excavations, and the four acres which we wished to cultivate were covered with rocks and weeds. David had no time to superintend the improvement of the land, and we engaged a foreman through a contractor, who also supplied us with Italians. All our work was to be carried on by the day. We explained to him that our plan was to have only the necessary work done to make the place livable. A short time after they had been at work we went over late one afternoon to see what had been accomplished. Imagine our disgust when we found a small space on one side of the house graded and smoothed to a parlor finish, while the rest looked as



We did not consider the outrageously steep and bumpy road until it was necessary to improve it by giant dentistry and corresponding expense



I wanted a thatched roof, but had never seen one except in the illustrations of Andrew Lang's Fairy Books, until on a visit to Long Island I saw a roof with shingles laid to imitate thatching. That was the way our house was finally built

though a hurricane had struck it, and half of the money gone which we could spend on the whole place.

We complained to the contractor of the incompetence, if not actual graft of our foreman. He said he understood the matter thoroughly, as the foreman had been a city-bred ex-policeman. The result of our conversation was that we would continue to employ five of the Italians and that I should superintend the labor. I will always look back with delight on the splendid way in which my Italians worked. In the short time they were with me, we systematically cleared off piles of stones from the five acres, made a respectable road and accomplished a large amount of grading about the house.

I am sure many women would find this overseeing of their outdoor work interesting and delightful, and the results both satisfactory and economical.

Late in the spring I reluctantly let my gang go, and for that summer we lived on our place without making further improvements. During this time, every evening as we sat on the piazza, we pointed out to each other the many things that needed attention, and fully as many times the farmers, expert and otherwise, advised us how to alter these matters, and of course all the suggestions varied. Finally I decided that if, with my lack of experience, I had to superintend the cultivation, I would get professional advice. I went to a well-known authority on scientific farming, and was told minutely how and when to fertilize the land, put in condition our old apple trees and sow the grass seed. I will briefly give the facts. In April we ploughed up all the land and harrowed it with a large tooth harrow; then applied basic slag at the rate of 600 pounds per acre. This contains 40% of lime, as well as a large percentage of phosphoric acid, which is essential for the lawn and pasture. When that was harrowed in until the soil was quite fine, sulphate of potash was sown over the land, ¾ of a pound to 100 square feet, and again we used the harrow. The land was now ready for the sowing of crimson clover. This brings nitrogen into the soil when ploughed under and paves the way for a splendid lawn and pasture. We

(*Continued on page* 218)





The soil in the frames should be made rich and mellow as soon as it is ready to work



Until the days grow warmer, care should be exercised in the matter of watering

Hotbed and Coldframe Gardening

MAXIMUM RESULTS ARE POSSIBLE WITH LIMITED SPACE AND EQUIPMENT—AN ADVANCE SUPPLY OF VEGETABLES THROUGHOUT THE YEAR—HOW TO CONSTRUCT AND PREPARE THE BEDS

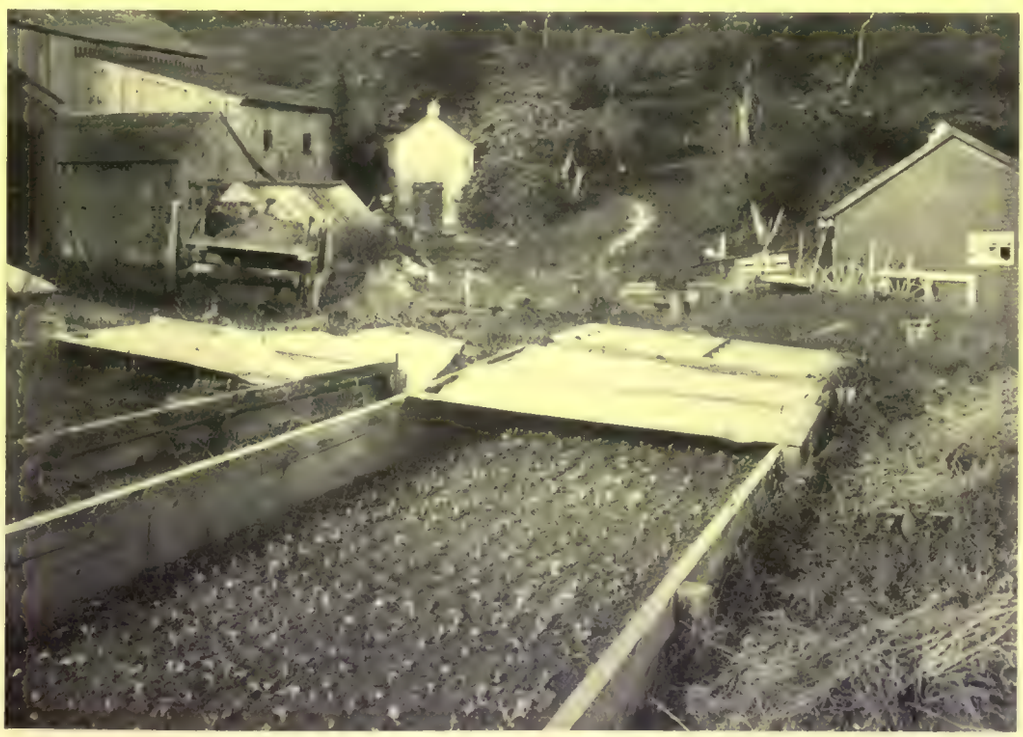
BY F. F. ROCKWELL

EDITOR'S NOTE: *This is the second and concluding article dealing with the value of garden frames and completely explaining their use. The first article, appearing in the September 1913 issue, took up the subject of work done in the fall.*

IN nearly every garden the frames are frequently the most neglected part of the equipment. It is quite the usual thing to employ them for only a few weeks in the spring, when starting the early plants for transplanting outside later, and to let them lie idle the rest of the year.

The frames, properly handled, not only should be in use the greater part of the year, but offer the greatest opportunity for intensive and out-of-season gardening. Moreover, being a very expensive part of the garden equipment, they should be made use of to the fullest possible extent. Efficiency is desirable in the garden no less than in the office and in the household.

Everyone who has worked with frames knows that it is little more trouble to ventilate, water and care for a "string" of several, full of plants, than to look out for two or three frames with a few boxes of seedlings and transplanted stuff that only half fills them. Why then be contented with just your small supply of garden plants and some radishes, most of which probably get overgrown before you have time to eat them, when practically the same equipment, managed a little differently, might give you an advance supply of vegetables from early in the season until clear up to the time you will need them again for starting your fall frame crops? If you are going to bother with frames at all, make them yield enough to have it worth your while.



A few flats of lettuce or cabbage can be started in these frames five or six weeks before "outside" planting. Here both glass and cloth sash are employed

For greater clearness, let us now consider a concrete illustration; let us take an average-sized frame, holding five standard 3 x 6 ft. sash. You plan to put the frames into operation as soon as the days begin to warm up, some five or six weeks before planting can be done outside,—which will be about the first of March for New York or north of it. A few flats of lettuce, cabbage, and the other hardy, early vegetables will be started, and possibly one or more of the remaining frames, if any are available, sown to radishes or set out to lettuce, if one has had some way of starting the plants earlier indoors. A little later the tenderer things, such as tomatoes, peppers and egg-plants, are sown, and all are transplanted either to other flats or directly into the frames,—all under the glass sash. The frames are kept crowded full, if not actually overcrowded for several weeks, a supply of plants,—probably over-abundant—is obtained, and then as warmer weather comes on, the sashes are gradually laid to one side, and the frames are allowed to grow up to an unsightly mass of weeds. Haven't *you* seen it happen?

If you want to get out of this rut; if you want your frames to produce for you up to their full capacity, there are two things which you must apprehend at the outset. First, that some of the hardy things, such as cabbage and lettuce plants, or radishes and lettuce, after being once well started and "hardened off," will stand a

good deal of cold, even several degrees of frost, without being injured in the slightest; and second, as a corollary to this, that temporary frames and covering may be used for these things for part of the time before they are ready to go out into the open ground, thus relieving the overcrowded condition of the permanent frames, making them available for other purposes.



Frames made of cement are impervious to moisture and will last for years

Let us start, then, with our equipment of a five-sash frame. It is very desirable that at least two of these shall be of the "double-glass" type, especially if one has not the facilities for making a hotbed in two of the frames. But you should make every effort to get enough manure to put in at least two of the frames. Let it make no difference even if some of your neighbors have already made their hotbeds, and others say that it has got warm enough so that one is not needed. It is not merely a question of keeping the plants from freezing, but of keeping them *growing* during the night, as well as the day, and as we shall want to start some of the "warm-blooded" things like tomatoes at once, instead of waiting a little longer, as some of your neighbors will, let your first job be to get manure at once, and put "heat" into the first two frames, which, to make directions as brief and definite as possible, I have marked "A" on the diagram on page 210.



The construction is simple. A wooden "mold" is made, into which the cement is poured and allowed to harden

The manure should be in an active state of decomposition, but not "fire-fanged" or burned out, and free from coarse straw or litter. Unless it is already heated through evenly you should stack it and turn it over after three or four days, turning it inside out so that the whole will become evenly heated through. Remove two or three inches of the soil from the frames, tramp in a foot or more of the manure, and put the soil back. Put up a partition of light boarding—a couple of cracker boxes from the grocers will furnish you with the material—so that the hotbed may be kept warmer than the rest of the frame. If you have manure and double-glass sash both for the frames, so much the better; but in case you have not the latter, be sure to have mats or shutters with which to cover the sash on cold nights, as otherwise much of the heat which should go to maintaining a high temperature within the frame will be lost in radiation from the glass, even when there is no danger of a freeze outside. The soil in the rest of the frames should, of course, be made rich and mellow as soon as it is ready to work. Fine, well-rotted manure, or bone dust or tankage, and muriate or sulphate of potash, are good for this purpose, as they are all quick acting, with little danger of burning seedlings or plants.



The manure should be turned over several times before use and stacked to avoid the danger of overheating

The next task is to provide your auxiliary frames and sash. Of course, if you have room and time it is best to make these extra frames substantial and permanent. But if not, they may be cheaply and easily constructed by putting in two rows of posts and boarding up to the proper height in back and front; or if you want to make them so that they can be put up and taken down easily, simply get 15 ft. of 12 or 15 inch board or plank for the back, and the same length, 6 or 9 inches wide, for the front. If there is the side of a house or outbuilding which will serve as the north wall of the frame, simply nail a cleat of 2 x 4 pine along at the proper height from the ground, on which to rest the upper end of the sash, so you will have only the front side of the frame to build. The sash for these extra frames are very cheaply made. A light, wooden frame of 1 x 2 inch stuff, the size of a standard sash, 3 x 6 ft., you can readily make yourself or order from your carpenter. They will cost from 30 to 50 cents apiece, according to material and local prices. Dry cypress is the best wood to use, but pine or other material will do. These frames are covered with "plant-cloth:" the heavy grade, which most large seed-houses carry, costs 12 cents or so a yard. Each frame will require two yards of the cloth, which should be stretched tightly and tacked firmly to the frame, putting the tacks not more than two inches or so apart. If handled with care these

(*Continued on page 209*)



Choosing Flowers for Their Color

A GUIDE TO THE TRUE SHADES AND COLORS OF VARIOUS FLOWERS, WITH DEFINITE SCHEMES FOR THEIR USE IN STRIKING COLOR EFFECTS—A GARDEN OF REDS

BY MARY YOUNGS

Photographs by Nathan R. Graves

THE compilers of most catalogues must belong to the family of the bard who sang "Most any color, 's'long's it's red, is good enough for me." The crimes that are committed in the name of crimson would make Ananias blush; scarlet is let off more easily, but the borderline between scarlet and orange is very wavering. The pestiferous Anthony Waterer spiraea is called crimson; it is really a dirty light magenta. There are glowing blood-crimsons (Cardinal flower); bright blue crimsons (*Pryethum hybridum*); deep black crimson (the deepest crimson, sweet william); and plain ordinary crimson (bee balm). But they are all called crimson *"tout court,"* and there are added unto them magentas and Tyrian purples, such as *Lychinis viscaria splendens,* which is a truly awful color, and Trooper's Feather (*Lythreum roseum superbum*), which is one of the good magentas, useful in combination with purple and white. So, here we shall make a desperate endeavor to keep within the borderline of real reds, and to describe each tone so that it may be recognized.

This task is very difficult in dealing with the tulips; crimson so merges into scarlet, and scarlet into crimson, that it is almost impossible to differentiate, but the yellower tones prevail and the bluer ones descend into pink; for example, the early bedding tulip Proserpine is rosy carmine with a white center, etc., and the slightly later "Jenny" is a silky carmine rose, both too light for a real crimson. But, coming still later, in May is *Couleur Cardinale,* described as crimson scarlet with a bluish bloom, which should remove it from the true scarlets and make it blue enough to be called crimson. Of the May flowering type, Fulgens is clear crimson with white center, *Gesneriana spathulata* is blood crimson, just on the borderline of scarlet, and one of the very best, with a delightful transparent quality in the sunlight. Of the Darwins, Professor Francis Darwin is a crimson scarlet with a blue base, and Whistler is a vivid maroon crimson; the effect of these is a blood crimson or cardinal in the mass. The Parrot tulip, Cramoisie Brilliant, is a rich blood crimson marked with black, and, though inclined to flop over and lay its head in the dirt, it is very effective, especially among low-growing foliage.

Even earlier than the tulips, comes the Crimson Polyanthus. There are various forms; some solid crimson; some delicately edged with a thread of gold, and some with decided borders of pale yellow, but in a mass, the whole effect is a good deep maroon crimson, and, though they are not showy, they are so early that they are a real delight. There are many crimson peonies, which come as near being the true color as any flower, except the bee balm. The earliest peony (*P. officinalis rubra*) is a bright crimson, a trifle blue, but by no means approaching magenta (*P. Tenuifolia*), which is a dwarf and has feathery, fennel-leaves; is a fine, clear crimson. "Rubens" is a very dark crimson; Excelsior is an early, dark crimson; Gen. Miles is a brilliant light crimson, and Grover Cleveland, a later dark one. Many other so-called crimson ones, such as Mme. Forel, are too blue for beauty.



Good crimson and maroon are found among the snapdragons



Before a dark background of shrubbery the fine crimsons of the *celosia* (cockscomb) appear to advantage, but use the plumed varieties only

The darker shade of the single *Pyrethrum hybridum* is a clear light blue crimson. It is a little difficult to



Some of the best reds are found in the velvety flowers of the improved nasturtiums

combine, but does very well with the common strain of sweet william, Centranthus, and plenty of white. It is in itself a most decorative flower, and should by no means be barred because of its color; it is worth "managing."

There are good crimson and crimson-and-white sweet williams of different shades; the best is described in some catalogues as "black-crimson," and it is a most wonderful deep color, like black ox-heart cherry. It is best to raise this seed, and remember, too, the celerity with which it will revert if left too near the ordinary kinds. Mine came from seed from Anne Hathaway's garden; the seedlings were given me by an enthusiastic and well-known writer on old-fashioned gardens. This deep crimson is the oldest variety of this long-loved flower.

The truest crimson I know is the bee balm (*Monarda didyma*). The flower heads are ragged looking, but are most decorative; the leaves are a good soft green, and have the delightful bergamot odor. The plants increase rapidly, and have a long season bloom, beginning patriotically just in time to be put in the Fourth of July bouquet (which is always composed of bee balm, cornflowers and wild carrot), and lasting well into August, which makes it a very valuable asset in color scheming.

I have but little to say on the subject of the wonderful tribe of lilies, because I have had no experience with any except *L. Candidum* and *L. speciosum roseum*, but there are many crimson varieties listed, and I have seen beautiful ones in a number of gardens. "Unless otherwise specified," a crimson lily *is* crimson, too, as a rule, for there is not that tendency to magenta that one must fight in other flowers, and the crimson and scarlet classes are apt to be truthfully divided and described. There are most wonderful and beautiful crimson amaryllis, but these are not quite practical for the open border.

The common strain of Chinese and Japanese pinks (*Dianthus Chinese* and *Heddewegii*) are usually sold in mixture, and are a delightful combination of deep crimson, pink and white, and they are to me most attractive flowers; they have a faint, clean fragrance quite distinctive, though very delicate, "like the fleeting fragrance of a dream."

The cardinal flower (*lobelia cardinalis*), which will not flourish everywhere, but needs shade and moisture for its roots, is a most beautiful bright red, like a delicate spire of crimson flame; it actually flickers, so airy is its form. Put it in a corner of dark, overshadowing foliage, and *feel* its fire.

There are good crimson hollyhocks; some of them as dark as Anne Hathaway's sweet william, and some a lighter shade. There is an exceedingly good crimson Snapdragon, and one of a deeper maroon shade. There are some fine crimson dahlias; Brutus is a good one of the cactus type, and the Empress of Austria is another, but darker. Cuban Giant is a good crimson show dahlia, and Crimson "Century" a fine single. There are many other really fine ones in the different types.



The African marigold in orange shades does not combine with the reds



Scabosia, or mourning bride, has a rich, dark crimson that in some blossoms approaches black

There are a few crim-

son Gladioli, but they are nearly all marked with white. Mrs. Beecher is a good color; so is Harvard, which has a little less white on it. There are some crimson phlox—but, Oh! the magenta hovers so painfully near! Sir Edwin Landseer is listed as bright crimson, and Count Von Hochberg really *is* crimson. It has a very slight tendency towards blue, but is an exceedingly good color.

The crimson chrysanthemums are nearly all backed with yellow, but Champagne is listed as a fiery crimson, and the grower assures me it is a pure color, and with no yellow reflex.

The crimson annuals are not so very numerous. In this color, as in pink, white and pale yellow, the *Phlox Drummond* reigns. It is a lovely velvety crimson, deep and true. There is a really fine crimson celosia (cockscomb), but this is so coarse a plant, and so ugly in form, that its real beauty of color is overlooked. It is not good in a garden, even a large one; but the plumed varieties, crimson, scarlet, yellow and orange, are all good, with a dark background in a shrubbery border used as you would use golden-rod, or other wild flowers of a coarser type.

There are pansies listed as mahogany which are such a velvety deep maroon as to go very acceptably among the crimson flowers, perhaps to follow the Polyanthi in the edging. There are splendid crimson nasturtiums in both forms. The dark crimson mourning bride (*scabiosa*) is a fine color, almost black. There are several good, bright, light crimson sweet peas, King Edward VII, and its improved types being perhaps the most popular. There are some fine dark crimson cannas, and the crimson zinnias are very good, though not quite as good as the scarlet and orange. As for the last crimson annual of the season, the crimson cosmos; it is too ugly for words.



For late blossoming choose one of the brilliant red cactus dahlias. Firebrand is a good one



The cardinal flower is like a bright flicker of flame in its shady corner

In treating of the scarlet tones, we return to spring, with the tulips. The earliest are Cramoisie Brilliant, syn. Carmine Brilliant (not to be confused with the crimson *Parrot* Cramoisie Brilliant), and Vermillion Brilliant. These are both



Both among the Darwins and the Parrot tulips are reds that complement the color scheme



One of the best annuals for scarlet colors is zinnia—it comes true from seed

good. Of the May-flowering, one of the finest is Inglescombe Scarlet, which is an intense vermillion scarlet, with a black base. The shape is also lovely, very graceful and not so solid looking as some of the sturdy Netherlanders. In the Darwin class, Flambeau is a brilliant, rosy scarlet, and Isis is a fine, fiery crimson-scarlet. It is a delight to use this dealer's descriptions, for they are not only accurate, but poetic, and can scarcely be improved upon. Mr. Farncombe Saunders is one of the very best with a rosy bloom, inside cerise scarlet, the effect of this in mass is a wonderful clear scarlet, like stained glass. Prince of the Netherlands is another beauty, glowing cereise scarlet, flushed salmon rose. There are some orange scarlets in the breeder class, but they are really over the borderline.

The wild columbine (*Aquilegia Canadensis*) is scarlet and yellow, but the scarlet so predominates as to place it among the reds. It is not so large a plant as the garden types, but is none the less charming for its delicacy.

Heuchera sanguinea deserves its name of "Coral Bells." There are many varieties of salmon, crimson, white, etc. (don't get the white unless you can have acres of it; it is pinkish), but the type is a gorgeous light coral scarlet, and the form is very delicate and pretty. One does need a mass, even of this variety, because of the small flowers, but not necessarily a large mass; a dozen plants set close would make a fine splash of bright color. Strange to say, it is an easy color to combine, on the principle that one can put a dash of brilliant red or orange on a gown of almost any color; only a dash, but it adds to the beauty of the other tones.

A joyful, shrieking scarlet which will not combine with any color on earth save other scarlets, green or white is the Oriental poppy of the "common or garden" variety. There are hybrids in all shades, from pale rose to mahogany color, but the good old-fashioned kind is what Miss Jekyll calls "red-lead color." Well,

(*Continued on page 223*)

Papering & Painting Problems



White woodwork and paneling is particularly effective against the mahogany furniture, dark floors and banisters



This forest frieze and the repeating landscape opposite are examples of good hall paper after old models

BY H. D. EBERLEIN

UPON taking possession of a house, either new or old, painting and papering are among the very first things that have to be thought of. On the wise selection of paint and paper depends a large degree of decorative success. Furthermore, paint and paper are such important factors in achieving a truly livable, comfortable interior that a satisfactory result fully justifies any degree of preliminary labor and thought expended. Of course, what has been or is about to be said in no way applies where the architectural style requires a natural hardwood finish.

In deciding paint and paper questions, the first thing to be considered is the future use or function of each room about to be dealt with. In the olden days white paint was almost exclusively used throughout the house, and it is beyond all doubt the most generally applicable and adaptable to all requirements. To be sure, white paint is not regarded as a labor-saver, but it is so cheerful and fresh and clean looking that it will always maintain its popularity.



Use the pictorial landscapes which cover a whole wall with extreme caution. They must be considered as pictures are, and all bric-a-brac dispensed with. There should be little furniture and of a simple sort

It is universally suitable for every place in the house, from the linen closet to the drawing room. Indeed, one very neat and particular housewife had her trunk room done in white to brighten it up and intensify the light that filtered through a tiny window. For a hall, what is more charming than white panelling? It is at once suggestive of freshness and makes a suitable and neutral background for the few pieces of furniture to be placed against it. The same thing also is true of the other rooms. In every case there is one rule that must be strictly observed—use only the best of white lead paint.

Another thing that must be remembered is that in painting white pine, especially new white pine, the wood must be given a coat of orange shellac before any paint is applied. Otherwise the resin or pitch in the pine is almost sure to come out in blotches and discolor the paint. The woodwork should have at least four or five thin coats before a final coat of enamel is put on. Each coat should be allowed to dry thoroughly and then be well rubbed down before the application of the next coat. A much better and more durable surface will be secured in this way than if fewer and thicker coats

were given. If it is possible to put on more than four coats before giving the final coat of enamel, by all means do so. True, it may cost more, but it is never economy to be niggardly with paint.

One can save a great deal by doing much of the painting themselves, but due care must be taken to have the right kind of brushes and the paint of the proper consistency and mixture. Any reliable paint dealer will be willing to give the necessary advice. Be careful not to put the paint on too thickly. Don't take too much on the brush at once and keep the brush strokes all in the same direction.



The Oriental landscape is being reproduced in exquisite coloring. This is a good design when used with a chair-high baseboard, preferably in a simple room



An upper hallway properly furnished and papered with the pheasant design

If some other color than white is to be used for the woodwork, several things must first be carefully considered. In the first place, we must regard the purpose of the room that is to be painted; in the second place, we must reckon the amount of light it receives; thirdly, we must think how it is likely to be used by the family. Let us assume, for the sake of example, that a dining room is flooded with light, so much so that the glare from the sun on white paint is out of the question. A grey green is selected and gives the desired result—that is to say, a room flooded with light, yet with a soft and pleasing effect upon the eye. In summer this color is suggestive of coolness, and in winter may be warmed by using telling bits of color in hangings and rugs, so that even then the grey green is most pleasing.

Next let us suppose a broad hall, which is to be done in white—for here the light is not so bright and a mahogany stair rail requires white as a proper setting. The white hall, with a grey green dining-room, makes rather a pleasing combination. A living room beyond the hall is done in French grey, two tones being used on the wall panels, thus breaking the monotony and adding a note of interest where the effect would otherwise be flat and dull. For a small den opening from the French grey living room, white has been chosen. Here again the light is diffused and white adds a reflecting glow that is desirable.

Thus, while we have a combination of light colors, there is enough difference to vary the monotony so often attributed to an all light or an all white interior, and, at the same time, each individual room is in itself pleasing; and when we consider the rooms as an open vista, the colors harmonize and the white room has its place without crowding out the other color effects. The foregoing suite of rooms, though imaginary, serves well enough to illustrate and suggest certain principles of color variety and combination.

A second floor may be treated in much the same way as the lower floor just discussed. Where a dead white is used



Japanese grass cloth now comes with stenciled patterns. This is a beautiful straw color, with two shades of blue upon it



A bird and flower pattern on a dark-pebbled background that brings out its fine coloring



A modern paper, with a design like the willow pattern plates, but in several colors

downstairs, let a cream tint be used above. The bedrooms may either be in white or in colors, according to their exposure and the light they receive. In all cases the greatest care should be taken, for the best of paint is none too good. The choice of either a dead or a cream white must depend on individual taste and the tones of the hangings and furniture in the rooms where it is to be used.

As stated before, at least three or four coats of paint should be used, but where circumstances permit more coats should be applied, up to six, eight or even ten. Satisfactory finish and durability will fully justify what may at first seem a needless expense and extravagance. An enamel or highly glossy finish is often delightful, but a dull or semi-dull rubbed satin finish is worth considering with white paint and decidedly preferable for grey or any of the other colors.



Another example of the old landscape papers, probably suitable for a dining-room. Do not consider having pictures on the walls of rooms so papered

We are so accustomed to restricting ourselves to white or grey in painting the interiors of our houses that we often quite overlook the possibility of using other colors to decorative advantage, thereby securing a welcome departure from stereotyped custom. We may, for example, use black, either dull or with an ebony finish given by much energetic rubbing; drak green, dark blue, Pompeian tan, and even graining in some places, is not to be despised.

Black relieved by gold lining may be very effective in a drawing room, dining room or several other places. Properly handled it is *not* a depressing or gloomy color and it *is* capable of imparting a distinction that can rarely be achieved in any other way. The same may be said of dark green and dark blue as of black, especially if used on wainscot and given a lacquer finish in the manner of some of the lacquered rooms of the seventeenth and eighteenth centuries.

In some modern English houses where ceiling beams have been painted, a further embellishment has been added with good effect in the shape of daintily painted vines and flowers in a flowering pattern along the sides of the beams, such a pattern as may be seen on Bavarian peasant china or furniture. This scheme gives variety of color, lightens the ceiling and produces a highly decorative result. Though it is not susceptible of use in every place and must be employed with discretion and restraint, it is, however, an available resource not to be neglected.



Perpendicular lines increase the apparent height of a room. The paper used with this division and with this design seemingly raises a very low ceiling

In dealing with the subject of paint, some attention must be devoted to considering floors where hardwood is out of the question or for some reason undesirable. One of the most serviceable floor colors is dark red brown, as it harmonizes readily with other colors used in rooms. It will, to be sure, show the dust, but then, when one thinks of it, this is really an advantage, for it makes thorough cleanliness imperative and is intolerant of housekeeping negligence, which is always inexcusable. Grey, particularly green grey, is also an excellent floor color and can be used in cases where red brown will not answer.

Pumpkin yellow, the color used so often for deck paint, is also available in certain cases, but should be used with the utmost caution. Its particular fitness is for lightening the heavy effect of dark rooms. Dark green, too, is sometimes used, but needs a bright room and light woodwork. White paint on floors is not, as some might suppose at first thought, an impracticable suggestion. It can be used suitably in a guest room, if that room is to be used only for guests, or in a drawing room. It would not do for heavy wear, but in the places mentioned it can impart a delightful air of freshness and lightness. Stencils of suitable pattern and not too elaborate may frequently be employed to advantage around the edge of a painted floor and help to tie walls and floor together.

If woodwork and floors are to be kept looking their best they must be given proper care. Floors should be gone over every day or two. There are various kinds of floor polishes that may be used, but very good results may be obtained by using a soft mop with a drop or two of coal oil. Woodwork should be frequently wiped off with a damp cloth, and in that way may always be kept looking fresh. The paint will last much longer under such treatment than if allowed to get dirty and then scrubbed vigorously.

After the painting has been done and a stamp of approval set upon the work, the next thing to be decided is the treatment of the walls in the various rooms. Before taking up the question of paper in detail, we must decide whether we wish to use paper at all or prefer to adorn the walls in some other way by the use of paint, hangings or panels of wood or stuff.

If walls are once painted it will be difficult ever to use paper on them.

(*Continued on page 225*)

A Woman's Gardening Costume

CLOTHES FOR THE FEMININE DEVOTEES OF GARDENING COMBINING UTILITY WITH ATTRACTIVENESS—A PRACTICAL GARMENT AND HOW TO MAKE IT

BY GRACE TABOR

ONE may cut flowers and dawdle about the garden in almost any picturesque frock from the wardrobe—indeed, the more picturesque the better—but for real gardening activities, I know by experience that it takes real gardening garb, if one is to work freely and comfortably and efficiently—and remain sightly. And right here let me say that this applies to men quite as much as to women; but the men must work out that part of it themselves. It is quite beyond me.

Every normal woman demands three things of her clothes: That they be becoming (I put this in the position its importance demands); that they protect her according to the demand of the circumstances under which they are to be worn; that they be as durable as is consistent with their purpose. No one wants an over-durable ball gown, of course, but everyone wants sports' clothes to have strength and staying powers. And gardening dress comes in the latter category, I take it.



A gardening costume practical as well as becoming

A complete protection of the body from the sun is the most imperative demand of the second class made upon the garden outfit, and I wish to lay especial emphasis upon this, because there is an altogether too prevalent notion that the individual who shrinks from tan and a general weather beating is somehow not the "real article." Believe me, this is not so; and sunburning and its attendant agonies never do anyone a particle of good, and have done many, many people very real and definite harm, physically as well as artistically. A burn made by the sun is quite as surely a burn as one made with fire, and, extended over a large area of the body, is only a degree less dangerous than the latter, because it is less intense. As a matter of fact, sunburn is known to have been fatal in more instances than one.

So, to cover up completely is a requisite; and in the dress which I have finally worked out and adopted I proceeded along this line so determinedly that not a cranny admits direct sun-rays to the skin anywhere. Some enthusiastic gardeners tell me that they prefer a bathing suit to anything else which they have ever tried, and I have no doubt the bathing suit comes as near the ideal garden dress as anything not made for gardening can do. Unless one's garden is absolutely private, however, it is not a garment to appeal. For we all know that a good, practical bathing suit is not over-attractive as a human habiliment. I do not claim for this long, straight garment, which has finally come into being under numerous experiments, any superlative degree of beauty, but I think no one will deny that it has possibilities that do not lie in the sea-going dress. It is cut without a pattern, as the chart shows, and when it is put together the wearer steps into it, draws the bottom of the bloomers up to just below the knee, turning the applied hem up around the leg; draws it up over the skirts; gets into the sleeves and fastens it as any coat or dress would fasten down the front. I find the best material for all-round use is khaki. If you prefer some other color to this, however, choose a galatea or a good quality of denim. The khaki color is undoubtedly the best, I think, although a strong, clear red is perhaps cooler under the direct rays of the sun. But red may draw bees to you; so, if you are mindful of them, avoid it. Bumblebees, especially, seem to be attracted, under the impression, no doubt, that they are approaching some great, brilliant flower. Moreover, red cuts have a disconcerting fashion of transferring some of their brilliance to the section upon which they rest. So, in choosing, always make sure that the color is not only fast, but one that will not crock.

Sew on the pockets in the positions the diagram shows; bring the sleeves to the proper length by adding as much to them as may be required—khaki is usually 27 inches wide. Sew the garment up with French seams, as indicated; gather the wrists and the bottoms of the bloomers into bands three-quarters of an inch wide when finished. Run half-inch elastic into this; draw them snugly, but not uncomfortably tight; face the neck; finish the front opening with a lap to go under at the left side, and button blindly, or button with small, round buttons, matching the material and loops. Sew on strips at either side to hold up the belt, and make a belt of the material, or use one of leather in a harmonious color. A plain, round Dutch collar, with a bow tie the color of the belt, is the most effective neck finish.

The hat is a combination of boudoir cap and the seaman's sou'wester, and, for complexion's sake, I should advise facing the under side of the brim with red. Of

(*Cont. on page 230*)



A bathing-suit is convenient, if out of place, in a garden



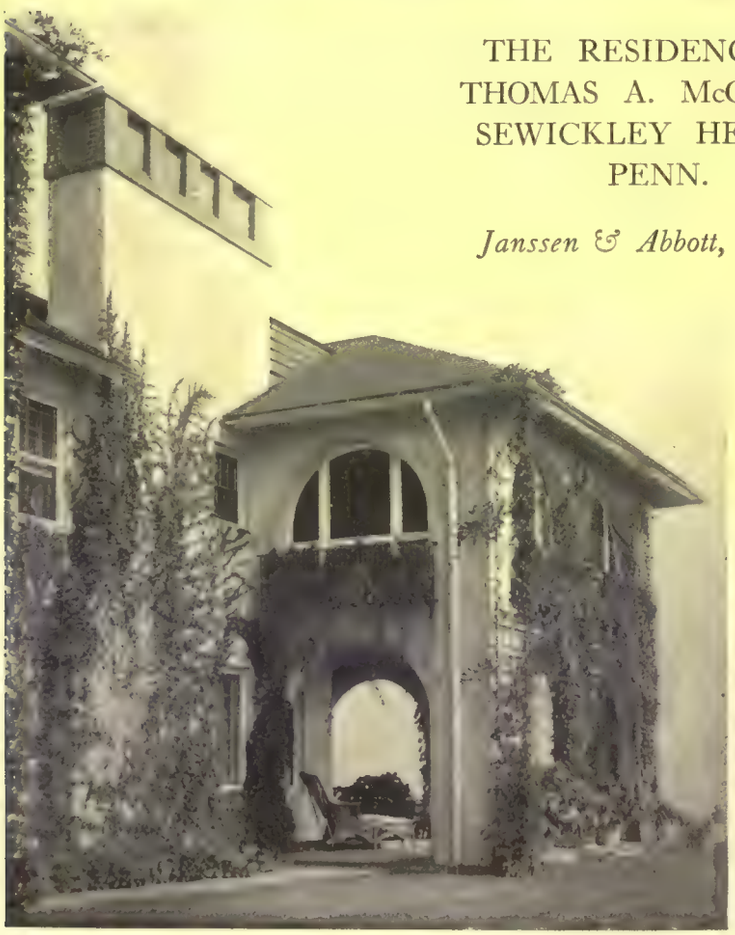
A large hat is essential when working in the garden on sunny days



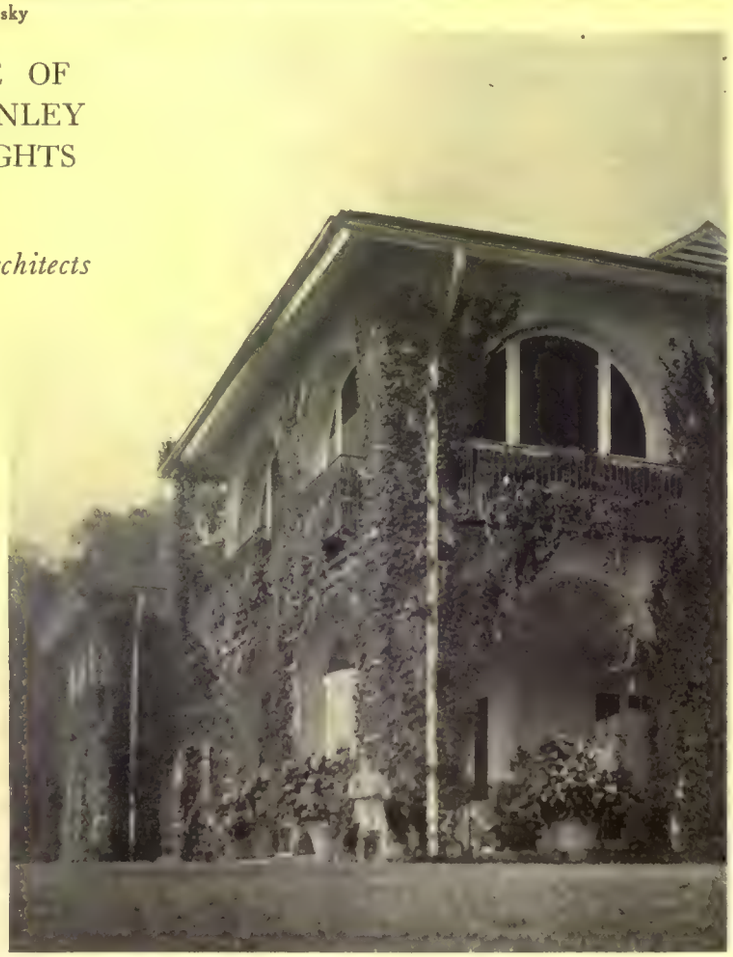
Mr. McGinley's house boasts that desired situation, a hilltop site, but it is distinctive in being so planned that it hugs the ground close instead of rearing monument-like into the sky

THE RESIDENCE OF THOMAS A. McGINLEY SEWICKLEY HEIGHTS PENN.

Janssen & Abbott, architects



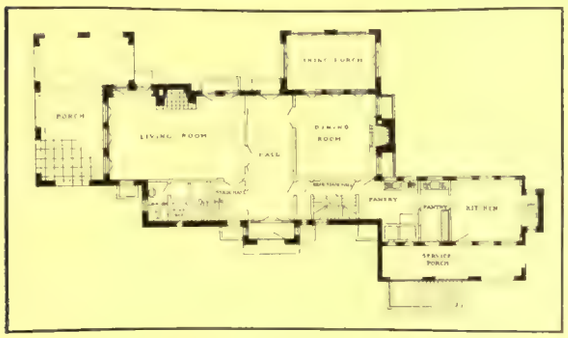
One wing is cool and shaded, with a construction like that of the hot country's cloistered patio and a view in four directions



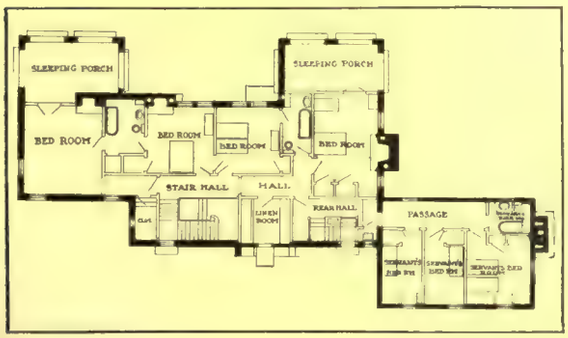
Above the porch wing the chamber is equipped as a great outdoor sleeping-room, well screened and graced by suitable iron work



The entrance is away from the living side of the house and does not interfere with it



Notice how compact and separate all the working part of the house is



Servants' quarters and stairs are so placed that no bustle can disturb those in the living-rooms



Between the projecting porch wings is a paved terrace, acceptable in cool weather



The lattice work complements the design, and with the vines over it makes less evident the useful, but usually unattractive, great window spaces



Vines are to add to, not conceal, architectural features. This house exterior is admirably designed and executed to gain most from their growth



Inside the House

Timely Suggestions and Answers to Correspondents



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

New Candle-Holder

A CANDLE-HOLDER that is new in quality, as well as in shape, is of an imported pottery that has a bisque-like surface, and comes in unusual colors and combinations of color. Dull blues and greens, with pale tan and an occasional spot of glowing red, are seen in these pieces, which include candlesticks of various sizes and shapes, oil and vinegar bottles, small pitchers and other articles for table use.

This particular candle-holder is quite unique in its design, suggesting as it does a lantern in both size and shape, with a regulation lantern handle at the top, but with a large section cut out at the front in order to give sufficient light. There are a number of perforations, forming a conventional design in the sides. These are intended to furnish air, and also for the sake of light, as otherwise it would be almost like a dark-lantern. Its colors are unusually lovely, and it would make a distinctive looking ornament or a decidedly practical candle-holder for a room in which a dim, shaded light is required. The candle is so well protected that it should burn for a considerable length of time before being entirely consumed.

What to Do with Old Willow Furniture

AFTER a season or so of out-of-door wear, willow furniture begins to look as if it needed a thorough scrubbing. But all the scrubbing in the world will not bring back the fresh springiness of the new furniture. It will much improve it, however, and the more thoroughly it is scrubbed with pure soap and water, then well rinsed, the better it will look. When water is applied to willow the wood softens somewhat and the pores close up. It is necessary, therefore, if we intend to stain the old chairs, that, after scrubbing, the wood should be allowed to dry out thoroughly, so that the pores may open again and be ready to absorb the stain.

If the willow is already stained and a new color is desired, it is better to remove the old color with a good paint and varnish solvent—or to remove as much as will remove. This may be applied with a stiff brush; after standing about five minutes, rub the softened paint with waste wet in benzine, which will remove the surface color.

Antique wood stain is preferred for willow, as it readily absorbs, leaving the desired dull finish. No "filler" is needed, as for regular wood painting. When stained willow is to be left out-of-doors, however, it is desirable that it should have an oil coating. This coating is made of seven-eighths of raw linseed oil and one-eighth of turpentine, to which mixture is added a couple of drops of "liquid drier," which forms four to five percent of all house paints.

To secure an extra soft finish for indoor use, a coating of wax polish applied with a brush after the stain is entirely dry will produce a soft lustre. After applying the wax, allow half an hour for drying; then polish with a soft cloth or clean, stiff brush.



A unique pottery candle-holder in the form of a lantern

To have a small willow chair stained by the maker will cost at least $1.50. The average painter is not versed in painting willow furniture; therefore, unless it can go back to the manufacturer, home treatment is desirable.

Gray is a color that the home workman should not select, for it is a chemical stain, and not easy to secure. The gray willows we see are colored by the manufacturer who produced the stain and applied it, in some instances before the chair was made.

Old Frames Made New

THE antique gold effect so desirable for picture frames may be accomplished by the home artisan, given the proper materials and a bit of ingenuity. An antique green bronze and a chocolate bronze may be bought all ready to apply in one coat. But the antique gold can be secured only by two applications, first a standard gold paint and then over it a glaze of raw umber in japan, thinned with turpentine and applied with a camel's-hair brush. (Colors ground in japan are always flat; to secure a glossy effect when these colors are used for any purpose, a varnish must be applied.) To show the gilt through, wipe the umber out in spots before it dries. The gilt should be thoroughly dry before the umber is applied. The good result of this treatment depends largely upon the proper thinning of the umber with turpentine, that the gilt may show through. Light and dark effects are secured according to the thinning.

Renovating Plaster Casts

MOST good plaster casts are painted—a statement that will doubtless surprise many people; the plaster is so absorbent that the oil is quickly absorbed and disappears entirely. In fact, so porous is the plaster that some manufacturers apply a coat of white shellac to stop the suction. To secure a flat, ivory color, dissolve a tube of flake-white in oil; tint with raw sienna or yellow ochre, and thin with turpentine. Allow a coat of this to dry on the cast, and when hard apply a

coating of wax polish. After a half hour rub with a soft cloth. If a dark tone is desired in the recesses, touch with raw umber thinned with turpentine, wiping off the high lights. The application of raw umber should be made before the wax is used, and when the coating of flake-white has dried.

Reproductions of Old Pitchers

EXCELLENT reproductions of quaint old pitchers that will serve both for ornament and use are being manufactured to a certain extent, and may be had at prices that are quite reasonable. It is rather to be regretted that more of these pitchers are not made, for the shapes and designs are far more picturesque than any of recent make, and, owing to the high standard of pottery manufacture, the copies are wonderfully perfect.

The pitcher in the center with the "Courtship of Miles Standish" decoration is particularly adapted to service, as well as ornament, for with its broad, flat bottom and conveniently shaped handle, to say nothing of its capacity, it makes an ideal pitcher for milk, or is equally useful as a piece of bric-a-brac. Of even quainter shape is the pitcher at the left, with its wide mouth and the queer figure of the old watchman by way of decoration, while the third pitcher is old-fashioned in color and design rather than shape, which is quite modern. This last pitcher, although ornamental in a certain way, makes a servicable and appropriate ice-water pitcher for the bedroom, as its all-over design is quite suggestive of chintz, and in using it the color scheme of the room may be satisfactorily carried out.

Table Novelties

SOMETIMES in striving after the unusual in the matter of decoration we overlook the possibilities of the common and neglected things. Not long ago I saw as a table center-piece a little, shiny-leaved plant about three inches high. It was so graceful and attractive that I asked what it was, and found to my surprise that it was a tiny grape-fruit tree.

Not only was there a center-piece, but at many of the windows there were boxes of the same things, alone and in combination with other small plants. The effect in every case was pleasing.

I learned that the seeds were dried for a few days after being taken from the fruit, then placed in the soil and covered lightly. The process of germination was discouragingly slow, and it was not until six weeks that any signs of growth were noticed, after which the progress was rapid. When first sown the seeds were placed in the sun and covered with a sheet of glass. The soil was kept moist and the glass was kept on until the shoots were noticed coming above the ground. After this, the glass was raised during the time the sun was strongest and replaced during the night.

Where the seeds came up too close they were lifted easily into other receptacles, care being necessary to prevent unnecessary exposure of the roots.

These little plants are not rampant growers, and even if they grow beyond the desired few inches they can be easily controlled by clipping the tops with a small scissors.

As a sort of hastener, I would suggest that, after your seeds are sown, the pan be taken to a greenhouse and buried in the propagating bed, but only leave them there until there is a growth one-half inch above the soil. Too long a stay will make the plants leggy and weak.



Three quaint pitchers of a shape and design which will readily harmonize with the general decorative scheme

An Inlaid Percolator

WHITE china porcelain inlaid with copper, or rather with a copper deposit put on in the same way that silver deposit is applied to glass, is being used for the newest coffee percolators. Only the bowl or actual receptacle for the coffee is of porcelain, the other parts being of burnished copper, and the combination is most effective. Two different models are made in this style, one the French percolator, with electric or alcohol lamp underneath and the glass globe above, the other the smaller percolator shaped more like a coffee-pot, with spout and handle, and only a small section of the top made of glass. In both styles there is a delicate tracery of the copper deposit on a cream-colored porcelain, with tops and other parts of copper.

Glass Top for the Desk

AN excellent idea originally intended for office use, but quite adaptable to the house as well, is that of placing a heavy sheet of glass just the size of the ordinary blotting pad on a desk that is handsome enough in finish to need protection. These glass sheets can be had mounted and ready for use with a thin pad underneath and brass corners that are just high enough to keep the glass in place. As the pad is dark and very nearly the color of the desk, the whole thing is inconspicuous and scarcely noticeable, and yet that part of the desk top that most needs protection is covered, without the necessity of putting glass over the entire top.



A happy touch of green is secured by this attractive center-piece grown from grape-fruit seeds



Garden Suggestions and Queries

The Vegetable Garden



CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening* and *Gardening Indoors and Under Glass*

March

THESE are the days, when you feel the sun for the first time, that you ought to be thinking about putting down tomatoes, peppers and egg-plants. Hot-bed or no, these ought to be in the ground by the 15th.

March is also the time for looking over your equipment and putting things in order generally.

Tools

Examine your implements for worn and broken parts, with an eye to replacements. One of the things you ought to have in your tool-shed is an emery-wheel, or a small grindstone, which has countless uses.

For mellow soil, such as that where you had a garden last year, the flat-tined spading fork is probably better than the spade; easier to use, and will break the lumps beter. Besides these, your outfit should include, if it is complete, both a large, bladed, sharp hoe and a broad-tined fork. There is use for these all through the season, but you will need them after spading for forking the soil before you can get it into condition to use the iron rake, which must be employed to give the proper finishing to the seed-bed.

In cultivating, there is no use in trying to get on without a wheel-hoe; time is too valuable and backaches too uncomfortable. If you have a wheel-hoe already, this year get an attachment or two, as many of them are exceedingly useful. If you are going to get a wheel-hoe, get a combination wheel-hoe and seed drill. This will cost more than the cheaper sort, but, as with care, it will last practically a lifetime, it is well worth the difference. And there are two or three other cultivating tools, which are not absolutely necessary, but are quite inexpensive, and which will give you, the user, a great deal of satisfaction. Among these are the small, narrow-bladed, or onion, hoe, and the scuffle or slide hoe, to use for short jobs or where the tops of vegetables have grown too large to permit the use of the wheel-hoe.



Cuttings are made about two inches long and the lower leaves and scales removed



Strips of wood or "bands" used as temporary containers in propagating early potatoes

And, of course, you must not omit your friends, the bugs, and the little attention you will give them will be greatly appreciated—by the vegetables. Time was, and not so long ago, when it was a considerable nuisance to keep provided with all the materials with which to make the sticky, smelly messes required to combat successfully the multifarious enemy. The so-called exterminators come now in economical packages ready to use, and if directions are carefully followed they are very efficient.

Most of these materials are applied in the form of sprays, and a good compressed air or knapsack sprayer is absolutely essential in the care of a garden of any considerable size. In addition to this, it is convenient to have a small powder gun for the application of tobacco dust, hellebore, and so forth.

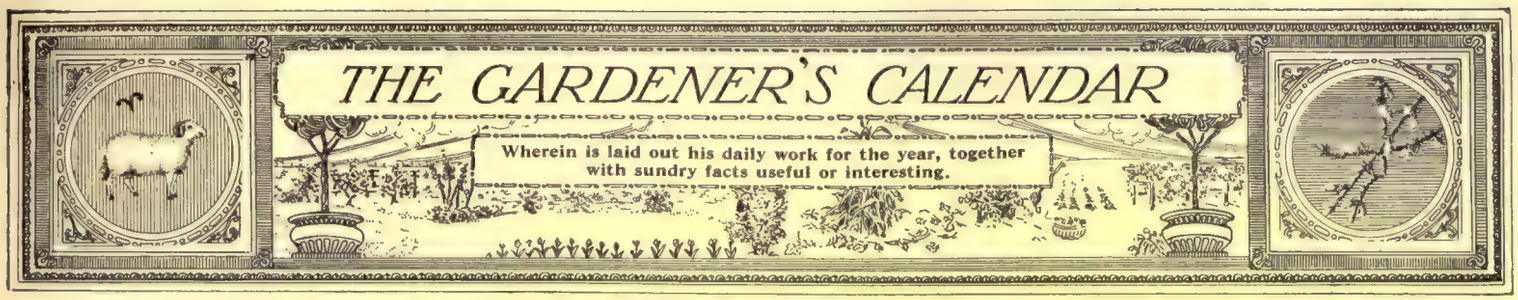
Propagating by Cuttings

The longer and warmer days are starting all the plants in the house and greenhouse into more active and luxuriant growth. The new wood forming as a result of this more active growth is ideal material for making cuttings. Until the new growth has become a little hard or ripe it is too soft to make good cuttings. The way to do to determine when the proper degree of hardness has been reached is to apply the "snapping test,"—that is, bend the shoot between your fingers, and if it snaps off, the pieces merely hanging together by a shred of bark, it is in the proper condition; if it bends or doubles up without breaking, it is either too old and hard or too young and soft. The cuttings are made two inches or so long, cut off clean, and the lower leaves and leaf scales removed. If the leaves are at all large or succulent, it is better to cut these back a third to a half. After being prepared, the cuttings should be kept where they will not wilt until they can be put into the sand or a puddle of sand and water. In the former case, ordinary clean, sharp builders' sand, medium coarse, is put into a small box or flat, three inches deep, made moderately firm with a brick or piece of board and thoroughly wet. Into this the cuttings are inserted to about half their length, care being taken to press the sand firmly about the stem and bottoms. Where only a few cuttings are to be made, what is termed the "saucer system" can be used. It is very simple and effective. Fill a glazed dish or saucer, some two inches deep, two-thirds or so full of medium coarse sand; the cuttings are then placed close together in this; the sand is kept

(*Continued on page 229*)



When the new roots are one-half inch long the cuttings should be potted



Third month
Morning star—Jupiter

March, 1914

Thirty-one days
Evening star—Venus

Sunday	1. ♂ The month of Mars. The ancient Roman year began in this month.	8. ☽ Look up both spraying and pruning again, and be sure you know just what to do and when to do it—and how.	15. ☺ Take more litter from bulbs, roses, etc.; be guided by the general weather conditions, and keep some near to recover in case of a sudden cold night. The aim is to harden young growth gradually.	22. ♂ Three fundamental principles of rotation are: Never plant vegetables of same family, or that feed at same depth, or that produce like crops (root or leaf) in succession.	29. ♉ Sow to-day in open ground peas (garden and sweet), onions, lettuce, beets, radishes, cabbage, celery, celeriac and turnip, or combine this with to-morrow's work.
Monday	2. ♉ Sow lettuce, radishes and beets for second crop; take one layer of mulch off bulbs and tender things, unless it is *very* cold.	9. ☽ Take a portion of the cover from the hardy (H. P.) roses; tie up vines as they may need it; all bird houses must be ready by now, for the birds are choosing their nests.	16. ☺ Rake up the lawn; dig out weeds; sow grass seed in the bare spots where these were and roll.	23. ♂ And the fourth is: Always alternate quick-growing crops with those requiring a full season to mature. If a mild spring, everything should be uncovered of mulch by now.	30. ♉ Set new asparagus, rhubarb and sea kale beds, or manure and fork up the old ones. The moon is favorable on these days (29th and 30th).
Tuesday	3. ♉ Watch hotbed; give plants plenty of air; use cold-frame if you have not before. Birds still need feeding.	10. ☽ A misty or frosty day on this date insures a year of plenty. Roses should be pruned before the sap runs.	17. ☺ St. Patrick's Day. Prune hybrid perpetual roses, leaving four or five canes 3 feet long for garden effect; or cut back to 8 or 9 inches, if quality of the bloom is desired.	24. ♂ Plant out new hardy roses, pruning them back a little more severely than those established. This means *dormant*, not pot-grown plants.	31. ♉ Keep your daily records up to the minute; note what your garden lacks in the way of early things and supply them before another spring. Has it daffodils and crocus?
Wednesday	4. ♉ Lincoln inaugurated, 1861. Put salt (agricultural) on asparagus beds, using about 1 lb. to 50 square feet of ground surface.	11. ☺ Full moon 11h. 18m. P. M. Cut back anything that has been transplanted; wounds heal best when sap is beginning to run, hence spring is a good time to prune, especially for form.	18. ♂ Last quar. 2h. 39m. P. M. Margin all walks and make any repairs in them that winter may have made necessary.	25. ♂ First Colony in Maryland established, 1643. Cut all *old* canes from berry bushes; they always bear on *last* year's *new wood;* all the rest is useless.	
Thursday	5. ☽ First quar. oh. 3m. A. M. Make screen boxes for melons; bring house plants that have been resting into light and activity again.	12. ☺ Clean out any cavities or small holes in trees and fill with cement; band fruit trees, if canker worm was bothersome last year; do *not* prune early flowering shrubs.	19. ♂ Light soil will probably be ready for working; do not touch any of the garden until it is dry enough to fall apart under spade or plough, however.	26. ♉ New moon 1h. 9m. P. M. Final lime-sulphur or oil spraying must be done, if any remains undone.	
Friday	6. ☽ Put nitrate of soda on rhubarb as soon as growth is showing; use 3 lbs. to an area of 10 x 100 feet in all garden applications — or a handful to a plant in this instance.	13. ☺ Put manure around trees, shrubs and vines — unless you are willing to buy nitrate of soda and so avoid weeds; a little of this will go a long way.	20. ♂ Transplant all seedlings as fast as they are ready for it; this may mean a little such work almost every day.	27. ♉ The last Friday of the month is said to indicate the weather for the coming month.	
Saturday	7. ☽ Sow spinach, sorrel and onion seeds in hotbed or cold-frame; transplant seedlings as they require it, giving plenty of room to insure stocky plants.	14. ☺ The ground probably will be breaking up by now; spread coal ash siftings over garden and beds; they improve soil texture unless it is already very light.	21. ♂ Spring begins to-day. Fork in the manure of the winter mulch on strawberries and on flower borders. Spade or plough as soon as the ground will allow it.	28. ♉ Pussy willows will be out or on the way, and such early shrubs as *Spiraea Thunbergii* and Forsythia, if the spring is not a backward one.	

"Mares' tails from *north*-east, warm rains bring tomorrow;
Mares' tails from *south*-east, wintry rains do follow."

"Ye living flowers that skirt the eternal frost."—*Coleridge.*
The month generally promises winter weather and winter winds.

EDITORIAL

CHORES

IN the days when our ancestors plowed with one hand and simultaneously shot savages with the other, there was little use for manual training schools. Such ambidexterity that the troublesome times developed in minute-man agriculture, was an indication of aptitude in many other pursuits of husbandry. Circumstance made the women of the household also equally proficient, nor were the youths of that day excepted. The boy and girl in Colonial times each had a particular stint of several tasks to perform, and even with just as much time spent in education as is the case to-day, did chores with unfailing regularity—or suffered. The consequence was the general ability upon the part of all members of the family to do various specialized manual labors with a certain degree of technical success.

An age of machinery, a time when most of the population lives in cities, has altered this. The telephone, the mail-order house—these have killed the chores system. True, it languishes in most remote rural districts, but a tendency is now noticeable even there to let it die out. So to-day there are comparatively few in this country who possess the knack of working with their hands to the degree of excellence characteristic of previous generations.

It is fruitless to hold up the perfections of other days and sigh for the "good old times." There is none of us who would willingly give up the refinements, the comforts, the conveniences that specialization and increased wants have given us. But for all we have gained, there is something valuable that we have lost. We are no longer handy.

When the chore system went, our manual cleverness disappeared with it. That we are appreciating the loss is apparent from the recent increase of manual training schools, and the propaganda spread by educators for the need of such training. But what is the use of gathering all the arguments of the educators? We know the need, and recognize what its loss means. How many boys can harness a horse, tie a knot, milk a cow, drive a nail, build a fence?—the catalogue of deficiencies is much too long. How many girls—but already you must have been surfeited with the statements of the household inefficiency of the modern young woman. Now there is no special intrinsic merit in each task, or does proficiency in all of them particularly fit a youth for a special function, but chores did make a better rounded man.

It is a pity to lose that instructive muscular "form" that chores made the heritage of every boy. There is only one way to swing an axe efficiently, and it requires a grace and precision; the "form" is as necessary as is form in golf, and it is hardly questionable that the requisite dexterity for wood chopping is not of a higher order than that required for golf. It is that aptitude which we call "natural" that daily tasks instilled and made natural. The chore boy could take hold without bungling, and lift without wasting strength, and use his fingers well at delicate adjustments. His daily life trained him to it; he was not more talented along these lines than is the boy to-day. His eye could gauge distances and measure heights. Daily tasks outdoors coördinated hand and eye and made them both true. Regular labors made the muscles efficient, both in accomplishment and saving of strength.

As this bodily fitness that chores develops is a fine thing, so is its companion, good mental fitness. To-day it is the fashion to discuss eugenics, and there is a latitude of conversation in mixed gatherings. Yet a clever young woman who felt perfectly at home in such an erudite conversation was heard to remark to a gentleman farmer: "What! Ten cows not giving milk! Didn't you get a good kind? Perhaps you might find something or other to give them with their food that might help." When this remark created a laugh, the reply was: "Well, how is one to know about cows; goodness knows, that's not *my* business?"

The man who lives in the country or in the suburbs may bring up his children to be as bookwise and experience foolish as this young woman, but he has a dozen opportunities of giving them a common-sense breadth of knowledge instead. And this they would get were there chores to do in the chicken yard, the horse stable, the cow barn, or even the task of *consistently* looking after a dog's training.

Chaucer and Rostand took the barnyard to mirror truths about the life of humans; they considered it forcefully interpretive. We are not guilty, then, of any sentimental vagary in stating that the close acquaintance with the domestic animals awakens certain human virtues. The care of farm creatures teaches sympathy and fosters patience. What is more, with the asknowledged need of parental instruction in the great mystery of birth, there is here a means of overcoming any false reticence in teaching the facts of life and inculcating knowledge honestly.

Yes, standing among the many privileges of life in the country is the opportunity for training, for education, that comes from the daily performance of some manual task. It is with this idea in mind that these random thoughts are written. It seems like a waste of country prerogatives not to take advantage of the training that garden tasks or animal husbandry labors, regularly performed, may afford. These are the substitutes that one may make for the old chores. They can give the bodily fitness to youth to-day as well as in the times when their routine was a necessity, and when, perhaps, their duties bore heavily on growing boys.

The chicken yard can become an economic factor in country living, but beyond its economy, we think, lies the broadening effect upon the intelligence that comes from its careful superintendence. A boy or a girl granted responsibility of its overseeing, of the keeping of the accounts, the management of the stock, a share in the building of coops and fences, and the many incidentals of purchase of food and watchful care to develop the animals, receives a supplementary training to his education that is invaluable. For these results, and no other, it were worth while to keep stock. Tasks at school are heavy to some children, because they do not see results. The abstract and abstruse in algebra and Latin are deadly dull because to the young mind they are purposeless. The child sees no possibility of application. But in the garden and the barnyard there are results. There are gratifying eventualities to be striven for. There is rivalry; it has all the charm of a game. Originality grows in meeting and overcoming the setbacks which may occur, and in fashioning new devices to facilitate labors. If you can give your boy a task to do, or your girl a labor to perform, and have it understood that it is a function to be performed with absolute regularity and despatch, you will find that you are giving him or her a training that is beyond the power of a mere manual training course to afford. Any of the country labors, if regularly applied, will give that fitness of body that we have mentioned. The subject does not need discussion; its truth is everywhere accepted.

This spring when you shape your plans for further occupations, why not consider giving your children a job to do? The garden offers a good field, and should be part of the home curriculum; but beyond this comes the barnyard. In all natural humans there is a latent desire to love some pet; encourage this. But regulate it and direct it in consistent channels. It will be of infinite good. A child may spoil a pet, and, spoiling the animal's nature, spoil its own by growing selfish and naughty. But if it has a task to perform for the animals, responsibility of its care—and in this very responsibility there is good—there will grow virtues that much parently legislation might not accomplish. With your garden, then, and with your barnyard, why not encourage this year the working with tools, the care and superintendence of farm animals. To gain the most, to make results permanent, give each his allotted task to perform, and encourage and insist upon its performance.

MARIE ANTOINETTE perhaps should be given the credit for what we know as the Louis XVI school of furniture design. It was her influence that broke the vogue for the frivolous and excessively ornamental.

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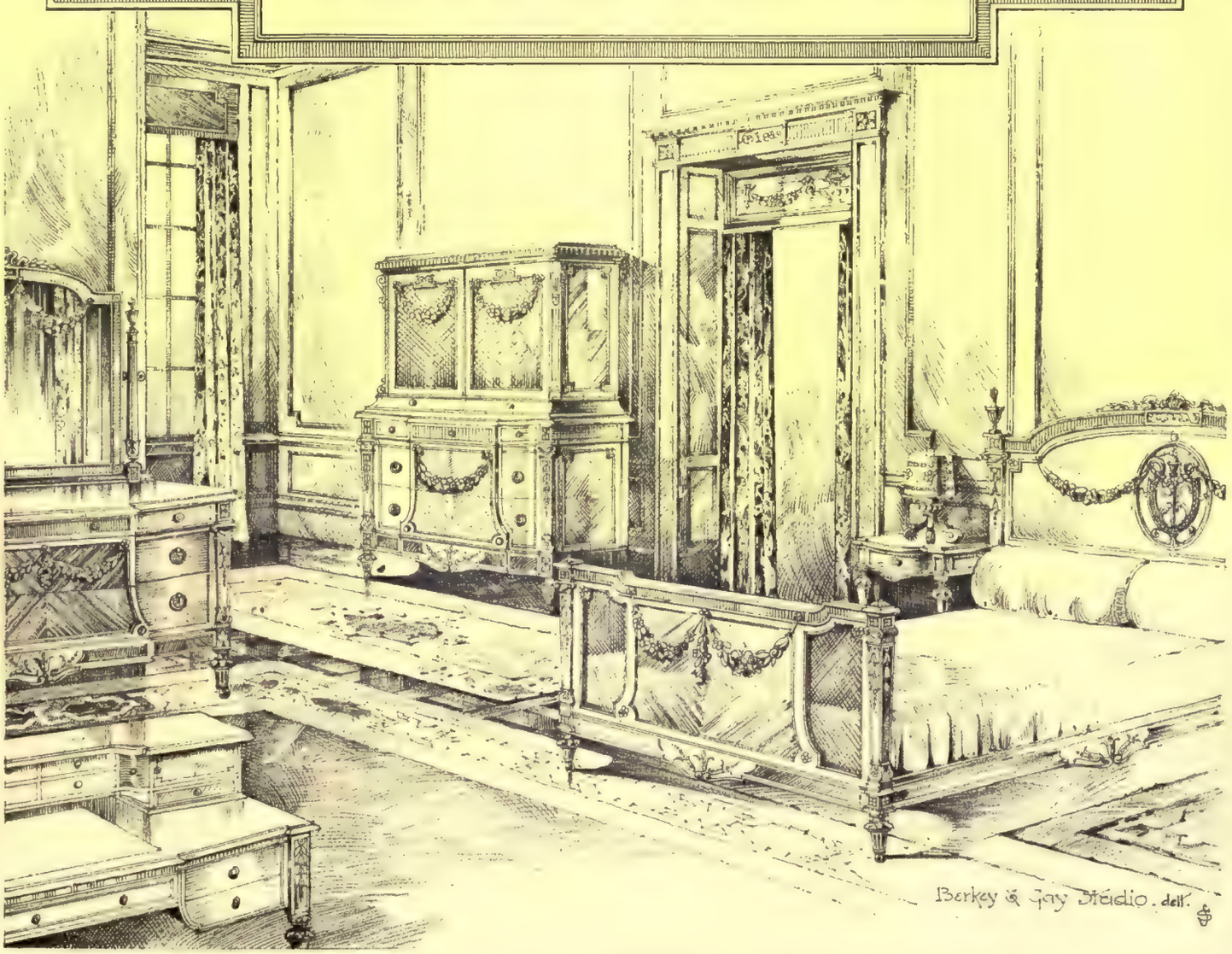
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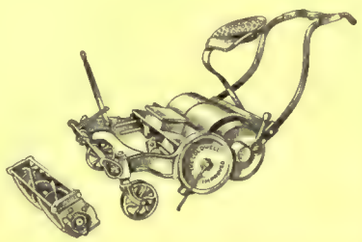
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All About it in Our New Free Booklet.

The Casement Hardware Co.
9 South Clinton Street - Chicago

My Orchard

(*Continued from page* 169)

courage to migrate to new lands; fewer city dwellers dare to change their environment. The pioneer spirit is rare. We were living in a listless community, but we were content to be listless ourselves. To be pioneers in a new country is far easier than to be pioneers in a long-settled place within reach of one's old life. In the one, everything is in harmony,—rough log shacks, primitive clothing fit the surroundings, but when one is liable to be visited by old-time city friends much moral courage is required to receive them in the changed conditions. We have to prove both to them and to ourselves that the change is justified and we have found something better.

The warp and woof of our country life is the orchard. It provides our income; it lifts us to the heights or casts us into the abyss as it succeeds or fails, and by its growth we measure our success in our chosen work.

The beginning of the year was dismal. I was away through the winter, out of reach of mail and almost of thought of the orchard. My old foreman was left in charge with orders to prune the trees and do other work necessary to the season. When Mrs. John and I arrived in the early spring we found that the "other work" had taken precedence. Not a tree had been touched. Even the wood-pile, which Mrs. John insists is the test of thrift on a farm, was pitifully small, although the orders had been for the shed to be filled. Everywhere we found things undone or half done. There was a grand hustle to get through the multitude of jobs which awaited us. We haven't yet caught up on that setback.

This was to have been our year of a big crop. Towards that I had worked and planned and hoped and,—asked Mrs. John to come to the hill-top. In early May a week of summer weather brought out the blossoms, for the thermometer ran high into the nineties. The orchard was a bower of bloom; my spirits were high. But there followed a week of hard freezes. Every night ice formed. Blossoms shriveled; tiny apples dropped, dropped, dropped! There was a May drop, a June drop and a July drop. By the middle of July I saw only 100 barrels of fruit on trees that should have been sagging under the weight of 10 or 15 times that number.

I had prepared my orchard for a wet season or a dry one. My trees were opened out so that the fruit might receive every ray of sunshine that Old Sol was willing to bestow, and the ground beneath them was plowed and cultivated, that every drop of moisture might be conserved. I thought I had things copper fastened. But the late frost knocked out the crop. Temporarily discouraged, I left the orchard to take up six weeks of my old city work.

We had two cheering sights. One, the young apple trees, which were booming along with exuberant health, surprising all expectation or even hopes; the other was the field of potatoes. This was a garden of flowers, the white, narcissus-like blossoms waving in the breeze like an undulating sea. Just beyond us were the best two potato growers in the town. They had better-prepared land than I because we were reclaiming old pasture, but we had a better spray rig. Our land was on a hillside,—just right for a wet season. From the day the tops appeared above the ground until one week before the crop was gathered not a single shower of rain fell on them! Instead of 300 bushels to the acre we had just one-half that, but at that we beat one of our competitors and nearly equaled the other. Moreover, the splendid quality of ours commanded a good price. I had cleared up some pasture land, and made money doing it.

I came back from the city work two weeks before picking time. The apples had grown and grown and grown during my absence. I found more than 200 barrels of the finest fruit the orchard had ever raised. The idea that the home force could pick, pack and deliver these apples had to be hastily abandoned. I scurried around a country bare of help to find it. I wrote to my old-time box packer that there was work for him, after all. Things began to buzz.

The packer wrote back that he had married a wife, and could not come. Two of last year's helpers offered to tackle the job. One had taken the course at Hope College, and the other had practiced it by himself through the winter. I decided to risk them at the work. And, in parentheses, let me say that they did good work.

The frost, which had so shortened my crop, had destroyed that on every tree in the neighborhood. The only apples for miles around were those on my trees. I went after the local market, and went after it hard. I offered a bonus of ten cents a barrel to the boys for orders. A house-to-house canvass resulted. It was a stony-hearted housewife who could resist the appeal of our cheery Irish lad: "Can I sell you a barrel or two of apples, lady?" Orders poured in. A prophet is not without honor save in his own country. Our apples were less known ten miles away than a thousand. The country people sampled them and ordered more. The telephone brought orders; the boys brought orders; the R. F. D. brought orders. We were cleaned out before we knew it, and had to shut down on selling an apple until we could take an inventory of those remaining. For this year, at least, the middleman problem was solved. We sold and delivered direct to the consumer.

We cleaned up the orchard, scarcely an apple escaped. Before and after pick-

SAFETY FIRST



The tread that makes the brake effective

When "*SHE*" Drives

There isn't anything you won't do to make motoring *safe* for her and the kiddies. If you *had* to you'd be mighty extravagant in order to secure "Safety First" for them.

But you don't *have* to be. Goodrich takes care of that for you. Goodrich puts the safety in the construction of the tire itself—puts strength and resilience and service in it. And with all that you have anti-skid, anti-slide, anti-slip sureness in

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Besides all that, you get lower-cost mileage. The extra thickness of tough Goodrich rubber in the treads at point of contact means longer wear, longer service, longer satisfaction—*money-saving*, of course, and the price per tire is less to you than any other of like value. Insure "Safety First" for her and the children by using Goodrich Tires with *the tread that makes the brake effective.*

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30 x 3½	15.75	17.00	35 x 4½	34.00	36.05
32 x 3½	16.75	18.10	36 x 4½	35.00	37.10
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12 Grades. 16-18-24 Inch. 30 Different Color Shades

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You must do more than keep warm air out and cold air in to insure perfect refrigeration of food. The cold air in the refrigerator—*must circulate constantly.*

McCray Sanitary Refrigerators

have an active circulation of pure, cold air that is constantly in motion and carries all food odors, impurities, etc. to the ice chamber where they are condensed on the ice and carried away through the water sealed drain pipe.

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The finest varieties to date in decorative, fancy, cactus, show, peony-flowered, collarette, single, Century, duplex Century and pompom dahlias are all illustrated and described in our

New Catalog, *Illustrated in Natural Colors*

This helpful book is *free.* It tells where, when and how to plant Dahlias to get best results; is an accurate complete guide on Gladioli, Cannas, Lilium and other summer-flowering bulbs and plants. Send to-day for your copy.

"Reputation Set"

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100 acres devoted to dahlia culture—the greatest plant in the world.

ing we gathered the windfalls. These were sold as "drops" for as much as I have known the most perfect of fruit to bring. The grading and packing were as careful as ever. Buyers got an honest barrel.

My methods were proved correct just in the nick of time. In the midst of the discouragement of spring I had left some trees half sprayed, and had not cultivated the whole orchard. Scab, worms, curculio injury, lack of size and misshapen fruit came from these trees. Every bit of slackness in the care of the orchard was exhibited in the packing house. New methods, where properly carried out, had yielded big dividends. Picking into peach baskets and carrying these directly to the sorting table cut out the bruised apple. From the first day's picking we threw out only 1½%, while in the days of the former owner 25% sometimes reached the discard pile. I had faced prejudice in my handling of the orchard, and its ruin had been freely predicted. Facing, as it seemed in the early spring, two consecutive years of crop failure, I was wobbling in my faith.

The man at the head gives the tone and sets the pace for the whole organization. Every employee reflects his attitude. Last year I went to pieces mentally at the harvesting season. This spring I was down in the dumps, and work lagged; men were hard to get and almost impossible to keep. But when I took hold this fall with a hopefulness, energy and happiness, the whole tone was keyed up. Nobody else could get any help while we wanted it. Men made long, hard trips on the road, getting back late at night with cheerfulness. They went out into the country-side and *sold* apples.

Although it has been a year of trial, we have pulled through, and a peace is dawning for us that we never could have found in the city. We have little money to spend, but we are laying up a competence for the future in the growing value of the orchard and in our knowledge of agriculture. We have vegetables and fruit in the cellar—enough to last until the new crop; dried beans and peas; all sorts of canned produce. The cow gives us milk, cream and butter; the chickens keep us in fresh eggs, and supply an occasional dinner. We have hay in the barn for the horses and cow, and food in the cellar for ourselves. If money fails we go without sugar, coffee and tea, and the animals without grain. If his wage fails, the city man goes to the park bench to sleep and joins the bread line. Slowly we are finding the peace we sought.

The Garden Club

(*Continued from page* 170)

winner's selection.

For the best ½ peck New Zealand spinach—Basket kettle for cooking greens. greens, etc.

For the best six tomatoes—Dozen wire tomato-plant supports.

For the best little-known vegetable not heretofore shown—Set of garden tools.

Second showing of perennials raised from seed; same conditions as above.

On or about September 15, fourth found of visits by judges in competitions.

October.—Exhibition of Dahlias:

1st, 2d and 3d prizes for cactus type.

1st, 2d and 3d prizes for quilled type.

1st, 2d and 3d prizes for best single flowers.

Special for best flowers raised from seed.

Third and final showing perennials raised from seed; same conditions.

On or about October 15 the fifth and final round of visits by judges in the competitions.

November.—Exhibition of Chrysanthemums:

1st, 2d and 3d prizes for hardy garden class—pompon or button type.

1st, 2d and 3d prizes for garden-grown annual class.

Special prize of $5 for professional or amateur, best in any class.

December.—Exhibition of Cold-frame Products:

1st, 2d and 3d prizes for best showing; one or more varieties.

RULES

1st prize shall be indicated by the blue ribbon.

2d prize shall be indicated by the red ribbon.

3d prize shall be indicated by the white ribbon.

Honorable mention shall be indicated by the yellow ribbon.

Special award shall be indicated by the tri-color ribbon—red, white and blue.

Competitions of the Club are open to amateurs and members only except where otherwise stipulated.

All exhibits must be grown by the exhibitor, save in such classes as may, by their nature, preclude such growth—i. e., wild flowers, etc.

All awards shall be decided upon the following percentage system:

Scale of Points.—Possible total 100%.

FLOWERS

Stem (strength 12½) (Length 12½.)	25
Color	25
Size	15
Variety or uniformity	10
Fragrance	5
Abundance	20
	100

VEGETABLES

Size	25
Abundance	25
Quality of taste	25
Quality of size and weight	25
	100



The Housebreaker Passes

the door with a lock this key fits, and you never know of his visit. No loss, no fright, no struggle in the dark with a man equipped with a gun and accustomed to use it—just a simple prevention that bars the way to lawbreakers. Circular VK88 tells about it. Sent on request.

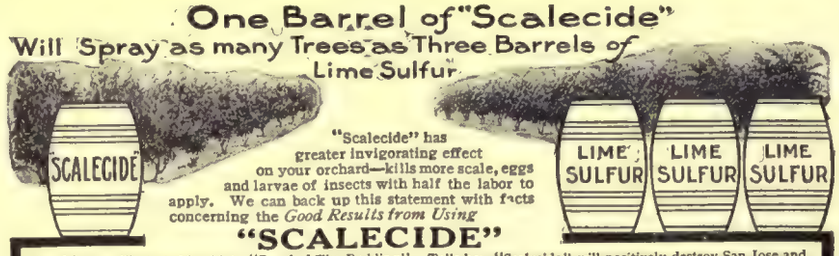
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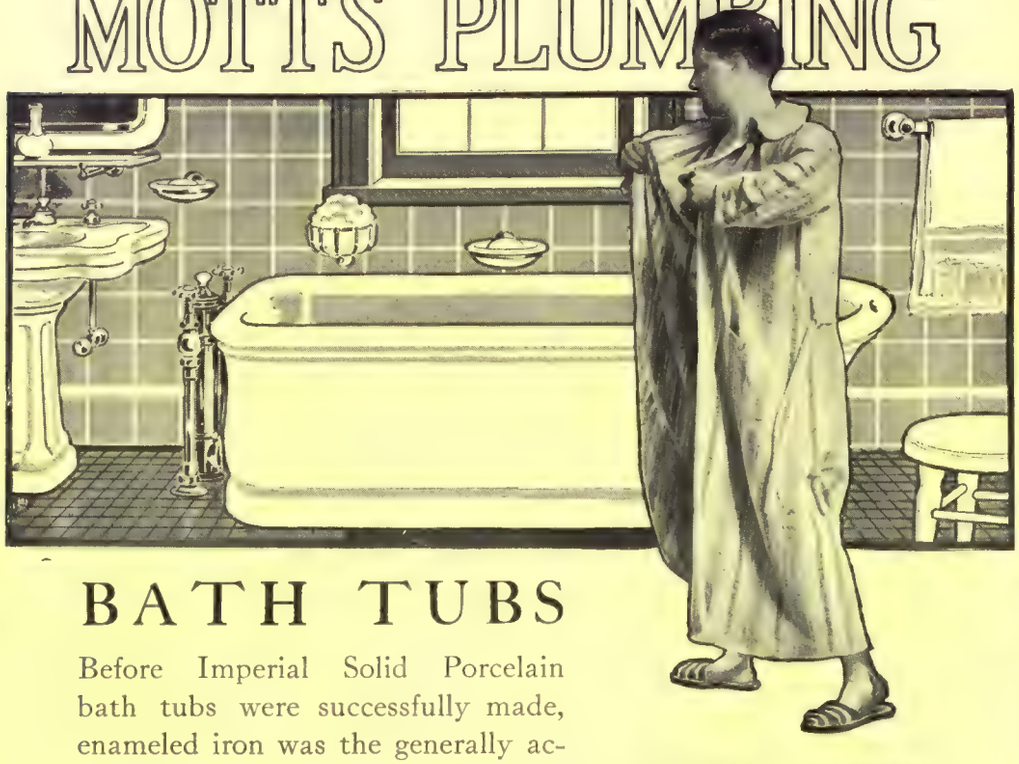
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FRUITS

Quality	25
Appearance	25
Size	20
Uniformity	15
Abundance	15
	100

Plants, flowers, fruits or vegetables entered for competition must be of more than ordinary standard and good quality to be entitled to consideration by the judges.

Three entries by different exhibitors shall constitute a class, and be entitled to an award of a first, or a single special prize.

First, second and third prizes shall be awarded only when a class contains five or more entries.

Honorable mention may be awarded any unclassified exhibit of special merit or note.

A special prize may be awarded for the best general exhibit of flowers and vegetables in any show or exhibit.

Each entry must be properly labeled with its name and class, and registered numbered tags for such labeling will be furnished the members upon application to the Secretary.

Judges may be professionals who may be asked to serve, or they may be a committee of members appointed by the President or elected by the Club. If the latter, they must not present an entry in the competitions which they are to judge.

A popular judgment shall be passed upon every competition, in addition to the judgment of award, by means of a general vote. The results of each ballot shall be announced and recorded, and a prize to be called the Club Prize shall be awarded at the end of the season to the member making the highest total score.

A prize to be called the Grand Prize shall be awarded at the end of the year to the member winning the most points on the judges' awards, these points being reckoned as follows: First prizes to count 10 points; 2d prizes to count 7 points; 3d prizes to count 4 points; honorable mentions to count 2 points, and special awards to count 1 point.

Five competitions apart from the exhibitions and shows are offered, as follows:

Vegetable gardens; perennials raised from seed; fruits; continuous and most abundant garden display of flowers, all kinds; children's gardens (children of members only to compete).

The judges will visit all gardens in the competiton once each month, as announced in the program, and each entrant will receive a score card upon which the number of points scored at each visit will be marked, to be retained by them until the final showing, when the totals will be reckoned and the awards made accordingly.

Fruits are to be submitted for judging

each month as they are in season, and a score-card record kept, as above.

Perennials from seed are to be shown at the exhibitions, as per program, and score-card records kept.

After the program was adopted we came to the subject of the day—Soils and Their Chemical Make-up and Altering Them Chemically,—which is, of course, only another name for fertilizing. This had always seemed to me a very hopeless and uninteresting matter; but we had a man from the State Experiment Station who talked about it exactly the way the lecturer in the domestic science course used to talk about dietetics, and the first thing I knew I was so worked up over the starving of plants through improper feeding that I felt quite equal to demanding of the Government a plant pure-food commissioner. Of course, the poor things are as helpless as babies, and many times it seems as if we do not feed them they are bound to suffer from malnutrition. Viewing them in this light makes fertilizers somehow seem a little less inelegant—puts a human interest in it, so to speak.

The Government are surveying soils all over the country, and when they finish there will not be an inch of this United States that has not been measured and classified and put up in test tubes and recorded and the records put away where anyone living in any neighborhood may be able to refer to them and learn exactly all about the dirt in his back yard. This is very encouraging, I think, and as soon as they come to my county I shall invest in the report. Meantime, this agricultural college man took away with him about a bushel of dirt done up in a little one-pound sugar bag and labeled with the name of the member who had donated it, and he is going to send back to us a report on each donation, together with a prescription for a tonic to build it up—providing, of course, it needs building up.

I should not have supposed that there was anything left to say about earth after Miss Lucy's talk of last month; but now I am beginning to wonder if it would be possible to tell all about it in a lifetime. There seem to be so many different viewpoints, and conditions change so. That is, conditions change because we change the plant which we wish to grow in a given place, and what seems to be one plant's meat is another plant's poison, or almost as bad as that. Of course, Miss Lucy has always known this, but then, she has always known everything about the garden, anyway, and her plants have always been like happy, well-fed children in consequence. This year I am going to see if I cannot have some happy, well-fed plant children, too!



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Solid Porcelain Refrigerators.

Have all food compartments of ONE PIECE of genuine solid porcelain ware AN INCH OR MORE THICK with all edges and corners rounded WITHOUT JOINTS OR CRACKS. More carefully made than most fine china dishes; GUARANTEED AGAINST BREAKING or CRACKING. The sanitary permanence, utility and beauty; the ECONOMY IN ICE CONSUMPTION (due to the FIVE INCH THICK SOLIDLY INSULATED WALLS) recommend them to those seeking the best.

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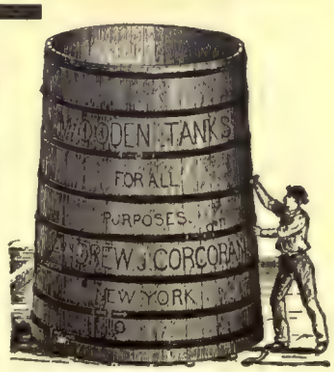
and you can set it up yourself with only a wrench.

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Before you buy a tank of any kind give us the opportunity to prove the superiority of the Corcoran. Get our Catalogue of Windmills & Tanks.

A. J. CORCORAN, Inc., 17 JOHN STREET NEW YORK, N. Y.



Houses That Architects Have Built For Themselves

(*Continued from page* 148)

temperature, but does not use gas beyond what is necessary to do this. The fireplaces have rolling spark screens that pull down like window-shades, and the vestibule doors have removable panels of glass for winter and of wire screens for summer.

These merits or conveniences are, nevertheless, of minor importance. The essential features of the planning are the small amount of space wasted in halls, windows on two sides of all rooms, except two small ones in the attic, and the convenient grouping of the bedrooms for different purposes.

I have often asked myself the question why my own house, built at the same time and in the same locality as four others of similar construction, and all built by our own organization, should have cost some 20% more per cubic foot than the others. The answer to this question throws considerable light on the cost of a house. My own and the other four houses, with one exception, were of so-called fireproof construction; that is, the walls were of hollow tile blocks with cement stucco applied on the exterior and plaster on the interior. The floors were constructed of the same tile with reinforced concrete beams holding them in place, and were finished with wood floor nailed to wooden sleepers.

While the inerior finish woodwork of the other houses was of simple design and of chestnut in the important rooms, and of yellow pine elsewhere, my own house was finished in oak and gum wood, and the trim itself a trifle more elaborate. This doubled the cost of the mill work.

The cellar cost more because I experimented on the employment of Italian laborers by the day and insisted upon the work being pushed, even though the earth was damp.

Experience on my house also resulted in a saving on the other houses by the imbedded boulders in the concrete of the foundation walls. In this, however, I had the satisfaction of a better result than in the other houses. My walls were more compact and less pervious to water.

Another source of additional cost in my house was our desire to choose the better of any two alternatives, a course whose wisdom one recognizes more as the house ages than when it is new. We wished copper gutters, down-spouts and metal work, instead of galvanized iron at a third the cost. We wished a tile roof, rather than slate, and a better grade of plumbing fixtures.

There were other additional items that might be considered as luxuries, such as oak-finished floors throughout, instead of in the principal rooms only; cork composition floors in the bathrooms, and an added number of fireplaces.

Those causes of increased cost that resulted from increased value I have never regretted, but a cause that quite equaled the total of these I have often regretted, and yet, were I to do it over again, I could hardly reduce it. As I have said, my house was the first of this group of five to be started; it was also the last to be completed. Time was more important to the owners of the other houses than it was to me, so that my house received, as it were, the overflow labor. Waiting time on the other houses was filled in on mine, with a resulting increased efficiency for them at my cost.

But the house is now finished; we have been settled in it for some time, and we find that the small troubles that arose while we were building are forgotten, and only the satisfaction of having a house that is so completely to our liking remains.

Making a New House

(*Continued from page* 173)

parently Venetian, of the school of Veronese, artist unknown.

Our hall, with white walls and ceiling, gray floor, and with no noticeable color anywhere, forms the transition to the dining-room, which is:

Gray—walls and floor;

White—woodwork, table and ceiling;

Mahogany—sideboards, chairs, etc.;

Green, blue and yellow in platters on the wall and in rug.

Throughout the house, the paler wall-treatment has seemed the more satisfactory because simpler and quieter. I suppose, because the woodwork is white, and a darker paper brings out too strongly the window and door frames and the baseboard. Furniture outlines become of great importance because so strongly silhouetted. Each detail of curvature counts. A Hepplewhite or a Chippendale tells, where, with a darker background, they might be unnoticeable, wasted, and little more effective than any commercial type. Perhaps this old-style wall treatment was a cause of their perfect development of form. Most of the old wall papers had a white or grayish background, or they were designed as large paintings, landscapes generally, inserted in panels or forming a high frieze.

Whether the woodwork was always painted white, I doubt; under layers of paint on part of the stair-work of the house I found a highly glazed surface of pale gray with what seemed to be veinings on it of a darker gray, as if the attempt had been to imitate marble. Our "Colonial" style is an architecture of stone forms built of wood, as the frequent rusticated corners and door jambs, or the omnipresent keystones show; so, why is it improbable that the ? ? ? ?

Such is the story of our house and its transfiguration; from a bare, uninhabitable barn it has become a home. We wanted a place we could play with; develop if we desired, or leave as it was,



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send for our Catalog which contains descriptions of the best that Europe and America have produced, including many varieties not listed elsewhere — all grown in our own gardens.

CHAMBERLAIN & GAGE **Wellesley, Mass.**



What a Difference!

Yes, and would you have believed it possible? That snapshot shows just how forlorn it looked when we bought it.

We added the porch and painted the house. I selected the tints I wanted and our painter matched them exactly by adding tinting colors to a mixture of

Dutch Boy White Lead

and Dutch Boy linseed oil.

You'd be just as surprised at how little it cost to make such a wonderful change. And it will last. Our painter says this paint will not crack and scale, and that we won't have to scrape the house next time.

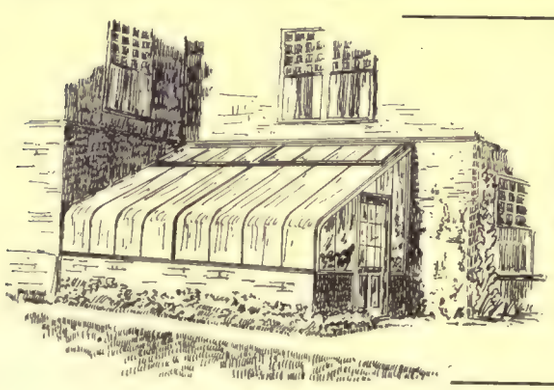
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and we found it here. We started with three cardinal requirements: Situation, simplicity, privacy; *situation,* within an hour of New York and a mile of the station, with open country nearby and water for sailing or swimming not too far off; *simplicity,* an interior uncomplicated by cozy-corners, yellow oak decorations, or other evil-shaped or colored things, and with rooms large enough for old furniture; *privacy,* of both house and grounds, where we might work and play without scrutiny from outside. These we have; yet it is a serious drawback, for me at least, that the house is in the country at all! I cannot afford the time it takes to commute. I know we ought to give it up, yet are loath to; it seems so suited to us in other ways. Even in these few years there have been so many litle happenings, pleasant in the retrospect, that when we think about selling it, sentiment says: "No!"

Yes, sentiment is one of the elements that render the remodeled house attractive. With us it is a strong tie, for we have found a personality in the building; a ghost of the former builder, and, as we discover more about him, sentiment adopts him, if not as a forebear, at least as a forebuilder. He was a certain Squire Jabez Mead, once a justice of the peace; a man of stern conscience, who relinquished the practice of law and all political advancement when he became convinced that honesty was incompatible with either! He may have had some justification, if we can generalize from a few fragmentary records, that perhaps, too, throw a light on the derisive title "Wooden Nutmeg State." The Greenwich town records of March, 1756, tell how, at a town meeting, it was "furthermore voted that Nehemiah Mead" (a collateral ancestor of the Squire) "should have liberty to sell the town stock of powder as soon as he can cenveniently to ye town's best advantage, and lay out all the money that he shall sell said powder for in powder that is good, and put the same into town stock as soon as he conveniently can." "In powder that is good!" Who, I wonder, bought the powder that, presumably, wouldn't go off? Lack of keenness at a bargain never seemed a failing of the Yankee.

Squire Mead engaged a joiner named Clark, they say, to build the staircase and the mantels, a man with the highest respect for his work, but with a yearning for the gin-flask, and, lest he succumb with his task unfinished, he invented a curious, wide leathern halter, which he padlocked over his mouth to demonstrate against the demon and be his constant reminder. Tradition says he kept it locked all day, and gave the key to Squire Jabez to hold till evening. The sunburst decoration on the drawing-room mantelpiece, I am told, was a symbol of his resolve, though to me the connection is not quite clear.

They say Clark had an unusual knowledge of the intricate joinery and dovetailing practiced in those days, and a contempt for nails as a poor carpenter's makeshift. I believe our stairs have no nails in their construction. Once, while finishing a staircase somewhere else, his patron suggested he nail a certain piece of timber to make it doubly secure. He drove the nails, turned, left the house without a word, and, deeply insulted, refused to come back. Surely, no new house can offer a worthy substitute for such old characters, who in imagination I see by the flickering firelight of winter evenings.

Hotbed and Cold-Frame Gardening

(*Continued from page* 184)

cloth sashes will last for many years, and as five of them will cost little or more than one glass sash, you cannot afford to try to do without them. When not in use they are serviceable in the place of mats or shutters over the glass sash, thus serving a double purpose.

It is frequently recommended that the seed be sown directly in the soil in the hotbed or cold-frame, but I have always found it much more satisfactory to use flats. Not only can the soil be prepared more finely and evenly, and the seed sown and covered more accurately, but frequently from various causes it is desirable to move about one batch of seedlings or another, and this cannot be done, of course, where they are growing in the beds. To make these "flats," of which we use many hundreds each season, I have found nothing more convenient than the regular sized cracker-boxes, easily obtained at any grocery store. They are simply sawed up into two or three inch sections, making provision for drainage when bottoming them. The soil, unless naturally very light and friable, should have leaf-mold or chip-dirt and sand mixed with it. When transplanting, a layer of good, well-rotted manure is put in the bottom of the box; or bone flour—several good handfuls mixed through a bushel of soil, if possible a week or so before using it—is employed in place of the manure. But the former is to be preferred, as it furnishes drainage, as well as plant-food. We water the seed-boxes copiously the day before planting, or just before putting on the top layer of soil, so that they will be thoroughly saturated without havin the surface sticky or muddy. A "flat"—about 19 x 13 inches—will give from 300 to 800 plants of cabbage, lettuce, cauliower, celery or beets, and from 200 to 600 tomatoes, peppers or eggplants. Unless you have all the conditions of soil, temperature, moisture, etc., under proper control it will probably be nearer the former figures than the latter. So you can readily figure out how much of each of the various crops to sow. The first sowing should include cabbage, lettuce, cauliflower, beets, onions



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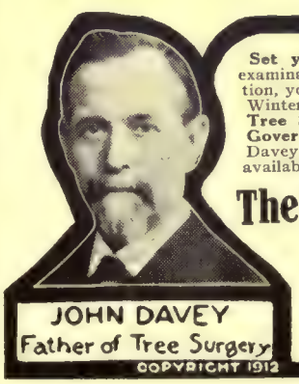
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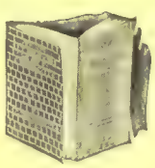
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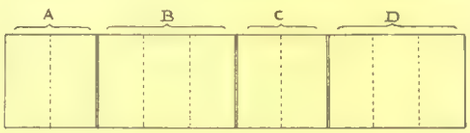
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and tomatoes. The onions, as they will not require transplanting before being set in the garden, should be sown rather thinly in flats three or four inches deep, with an inch or two of rich compost at the bottom. The rows should be placed about three inches apart, which will give 150 to 300 plants to the flat; or they may be sown directly in the soil, and the sash over them used on another frame later. The best varieties for this purpose are Ailsa Craig, Gigantic Gibraltar and Prizetaker. Of all the other vegetables, early varieties should be used; such as Wakefield or Copenhagen Market cabbage, Snowball cauliflower, Wayahead lettuce, Early Model beet, Comet or Bonny Best tomato, and Golden Self-Blanching celery. The second planting, made ten days or so later, should include tomatoes for main crop, peppers and egg-plants, Matchless and Dwarf Giant tomatoes, Early Neapolitan and Chinese Giant peppers, and Black Beauty egg-plants, are all good sorts. The third sowing, about the first week in April, should include muskmelon, cucumbers, lima beans, sweet corn, and, if desired, summer squash. These should be planted in five or six inch square paper pots (which are, respectively, about four and five inches in diameter), in a very rich compost of fine soil and old manure. These pots may be placed temporarily between the tomato plants set out in the frames, or growing



A simple arrangement of frames providing different temperatures in order that seedlings may be transplanted for gradual hardening off

in pots. A good method is to pack the paper pots as close as they will go in a flat before filling them with earth and planting them, so that they can be easily moved whenever the tomatoes begin to need the room.

Even if there is a chance of your being able to plant some of these things outside within a week or two, you will gain greatly by starting them under glass. It is not the date of planting, but the warmth and protection they have to start with, that will determine their season of coming into bearing; so that, in case of a cold, late spring, such heat-loving things as melons and pole lima beans will be away ahead, even if planted on the same date that they could be sown outside.

The seedlings, as soon as they are ready to transplant, which will be about the time the second true leaf begins to show, are transplanted, setting 50 to 100 in a flat, and placed for a week or so under the glass sash (in "B"), when they may be transferred (to "D") under the cloth sashes. (Or, if the frames are equally tight, the sash may be moved,

rather than the plants.) The same procedure is followed with the second planting, the tenderer things, and these will be ready to go into "C" shortly after the former lot can be set in the open ground. As soon as they begin to crowd in the flats they should be given a second transplanting.

The other part of the work—getting crops ready to use in the frames as soon as possible—should also begin just as soon as the soil in them can be prepared. Go to some near-by florist or market-gardener, and get a few dozen lettuce and beet plants and a dozen or two of tomatoes, and set out one frame of lettuce, putting the plants seven or eight inches each way, which will take about four dozen. Half a frame of beets may be set out in rows ten to twelve inches apart, the plants three or four inches in the row; and half a frame of radishes and carrots, making the rows four inches apart, and sowing every third row to carrots, or six inches apart, every other row carrots; in the former case some very small variety of radish, such as Scarlet Globe, French Breakfast, or Rapid Red, but with the rows six inches apart, Giant Crimson Globe, or some other similar sort, may be used, and where only a supply for the home table is required, this will be more satisfactory, as the crop will remain in good condition very much longer. For the carrots, Nantes and Chantenay are both good for this purpose. As soon as the first lot of seedling is ready to transplant, the glass sash is removed from "C" to "B," and the cloth sash used in its place.

These crops will all be ready a long time before those from the open ground, and removed in time to fill the frames again with melons, cucumbers and pole lima beans already started in the hotbed. Tomatoes, set 18 x 24 inches, which will allow six to a frame, are set out in "A" as soon as room can be made for them. They will require only part of the space for the first two or three weeks. Each one should be trained to a single stem, pinching out all suckers as soon as they appear, and enough foliage cut out to allow plenty of sunshine and air to reach the fruit clusters. One or two hills of melons or cucumbers to each frame will be enough; the vines may be cut back at three or four feet, or trained out over the frames. The new bush musk-melon and bush squash may be used,—two hills to a frame.

Of course, the various crops growing in the frames will require careful looking after in the way of watering, ventilation, protection from insects, cultivation, etc. These things cannot be left to "Nature," as they can with outdoor crops. Also, as the plants are put closer together than they are outdoors, and consequently make a more severe drain on the plant food in the soil, a top-dressing with nitrate of soda, or a watering with liquid manure,



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will be beneficial, although the radishes, and probably the carrots, will not need this assistance if the soil is rich, as care must be exercised not to force them into a growth of top at the expense of root development.

While the soil is to be kept from drying out, care must be taken, especially until the sun gets strong and the days long, not to overdo the matter of watering. Avoid the "little and often" policy. Give the frames, or the plants in flats, a good wetting, and then withhold the hose or watering-can until it is again really needed, as indicated by the soils drying on the surface. Also avoid watering on dull days and late in the afternoon; choose rather bright mornings, so that the surface and foliage and the surface of the soil will have a chance to dry off before nightfall. As soon as the weather becomes less severe, strip off the sash entirely when possible, and let the rain do as much of the watering for you as possible.

For ventilation, the general rule is to ventilate as much as possible, while maintaining the requisite temperature. The sash must be watched very carefully in bright weather, for the sun on the glass runs up the temperature in an almost incredible way. A notched stick for each sash, which will hold the sash open at various heights from one to six or eight inches, is very convenient. Unless a warm night is anticipated, the sash should always be closed early in the afternoon, so that they will not become chilled by the rapid fall in temperature resulting when the sun "gets off" the glass. The lettuce, radishes, carrots, etc., will do all right with an average night temperature of 40 to 50 degrees, but the tomatoes, peppers, eggs, melons, cucumbers, etc., will want 10 or 15 degrees higher than that. The day temperature in the sun may in each case run up to 15 or 20 degrees higher than those figures.

The aphids, or green-plant lice, are the most troublesome insect enemies, and the "damping-off" fungus the most dreaded disease to guard against. Overcrowded, shading foliage, or too dry plants, in a close dry atmosphere, invite the former. As soon as they appear, fumigate with tobacco stems or dust, or spray thoroughly, repeating two or three times a day or so apart if necessary, with aphine, or some such nicotine extract spray, following directions carefully. To guard against "damping off" and leaf-rot avoid sudden changes in temperature, and damp soil or foliage through nights and dull days.

Crops of Quality

(*Continued from page* 179)

to a half inch deep, keeping to the former figure unless the soil is quite dry. The latter sorts are planted from half an inch to an inch deep, according to the size of the seeds and the soil and condition of it. Spare no trouble in getting the first line as straight as a string. The great secret in cutting down hand work in root crops lies in being able to shave up close on either side of the row with the wheel-hoe, and the straighter the row is, the more effectually this can be done.

A number of the root vegetables, especially if one wants to have them in the best condition, should be sown several times during one season. These "repeaters" are beets, carrots, turnips, radishes and kohlrabi A row or two of beets, carrots, turnips and radishes will be enough for the average garden for the first two plantings; but the last planting of each should be large enough not only to supply your fall garden, but to furnish a supply to store for the winter, as they will all, except the radishes, keep in good condition until the spring if they are properly stored. Radishes should be planted every two weeks at least, and every ten days is better with most varieties. A convenient way in a small garden is to keep a small supply of the seed on hand in a tin box with the garden tools, or where it is readily get-at-able, for sowing a few feet of row whenever the opportunity offers, between plants where part of a crop has been removed or where seeds of other things have failed to come up, about once in a week. In this way you will find yourself always with a fresh crop constantly on hand with very little effort.

In order to get a full "stand" of vegetables sown in continuous drills, it is necessary to sow the seed a great deal thicker than you wish the plants ultimately to stand.

Thinning should be done as early as possible; because the little seedlings, especially if they come up quite thick, begin to get entangled with each other. Onions are an exception to this rule, both because they do not interfere with each other so much, and because the maggots are apt to do some of your thinning for you. Furthermore, onions have the peculiar faculty of "growing all over each other" with practically no interference.

If the plants should have become quite large before you have a chance to thin them, try to pick out a cloudy day or a late afternoon for the work, and press the soil down firmly about any which may be loosened in the operation.

The greatest secret in succeeding with the root crops is constant and careful weeding. This work has to be done on hands and knees, and it is, at the best, a tedious job. But the task may be lessened con-



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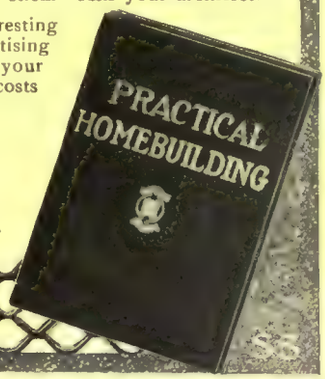
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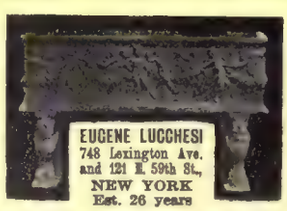
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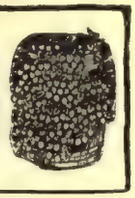
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siderably, if just before doing the hand weeding you carefully adjust your wheel-hoe, using the hoe attachment, the shoulders set towards the row and the two wheels so you can straddle it, or, better still, the disc attachment, which, when properly adjusted, will shave up very close to the little seedlings on either side without throwing any earth over them, and leave only a narrow ribbon of soil to be worked by the fingers. Do not be content with merely pulling out the weeds that are visible. Every square inch of the soil should be broken up, so that the thousands of little weed seedlings which have sprouted below the surface will be destroyed, as well as those which have grown large enough to be pulled out. With the first weedng thoroughly done and the soil betwen the rows taken care of by the wheel-hoe, the task of growing is half done. But, even so, you must keep one eye open all the time, since, for a while at least, the weeds will grow much more rapidly than the crops.

With the machine set up with a single wheel, and the hoes turned toward each other, so as to work the middle of the row, you will find it a very easy task to keep the part of the garden devoted to root crops clean. But, nevertheless, you should go through them frequently—every two weeks if possible—not only to keep down the weeds, but to prevent the soil from forming a crust. Keeping the "dust mulch" on is absolutely essential to preserve the water supply of moisture in the soil, and, of course, as soon as that begins to get short, the growth will be proportionately checked, no matter how rich the soil may have been made nor how carefully clean you keep the crops. Work the soil just as long as you can get through between the rows with a wheel-hoe; and even after that, unless the ground is completely shaded, it is advisable to go through with the scuffle hoe.

In a very dry season, to obtain the best results as regards both quality and quantity, artificial irrigation is extremely desirable. The root crops are particularly easy to irrigate, because they grow so near together and because the ground is so well shaded by the foliage, so that the moisture is retained, and the soil does not "bake" in the sun the following day. A simple pipe and garden hose will answer the purpose for a very small garden, but "overhead" irrigation is, of course, much more satisfactory. Every owner of a small garden who has a water supply on the place should invest in an overhead system, as its cost will be amply repaid in the first one or two seasons' use.

The selection of varieties suited to the particular purpose in hand has a great deal to do with getting satisfactory quality, and some of the best varieties, along with a few hints about methods which have given good results in my own garden, are as follows:

Beets: For the extra early crop, set

out in April a few dozen plants which have been started in a frame (or you can buy them from a local florist or market gardener). As soon as the hard frosts begin to let up, plant in the open, sowing extra thick and shallower than regular depth, half an inch or so. Crosby's Egyptian is often used for the first planting, but I prefer Early Model, as I consider the quality better. There are several good early sorts. If about the same amount of a later sort, such as Crimson Globe or Columbia, is sown at the same time, and another small planting is made about a month later, that will give you roots in prime condition through summer and early fall. Then about June first, or considerably later than that if you have soil and climate suitable, put in a much larger planting for late fall and winter supply. These should be planted deeper, and if the soil is at all dry, firmed down in the bottom of the drill before covering; or, if you are planting with a seed drill, by running the wheel-barrow, with a small weight in it, over the row. Before hard frost in the fall the roots that are left should be dug out, the tops cut off,—not close enough to cause "bleeding,"—and packed in sand in a cool, but frost-proof cellar. A good way to handle roots of this sort is to get a number of cracker boxes from the grocer and pack the roots in them, filling in the first layer or two with sand, but leaving the boxes light enough to carry conveniently, and leaving the rest of the sand to be put in after the boxes are in place.

Carrots: For an extra early supply, a few rows may be sown in the hot-bed or cold-frame, putting every second or third row in carrots when you sow your radishes. The first crop out of doors may be sown about the same time as early beets or shortly after, in well-drained soil. One of the varieties, such as Nantes, may be used, and I have frequently found that in sowing these and a later sort, side by side, that they become just as large, if not quite so nearly matured, by the time any of the early sort were ready. Coreless is a fine quality main crop carrot, with a long, blunt root. Chantenay or Oxheart, Guerande—probably Model (Chantenay), or Oxheart (Guerande)—will prove a good winter crop, and should be planted the same time or a little earlier than beets, and a supply for winter may be stored in the same way, taking the roots up before freezing time.

Kohlrabi: This somewhat unusual plant should be grown for every table where variety is appreciated. Its culture is simplicity itself. Practically all there is to it is to cook them before they grow too big. They grow as readily as turnips. Sow only a very few at a time, and make successive plantings until the middle of summer. Trim them out to 3 or 4 inches, and use while still small, 2 or 3 inches in diameter.



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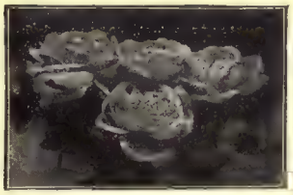
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Leeks: Those who like them think that they are worth the long season of growth required. Plant during April or early May, and in June transplant to very rich soil, heavy if available. As they grow, keep the earth drawn up about the lower part of the stalk to blanch them. Still finer specimens may be had by making collars of cardboard or heavy paper—do not use tarred building paper—to put around the stems, so that the earth will not come into direct contact with the stalk. The collar is held in place by drawing the earth up against it. American Flag is still the standard sort, but there are a couple of new kinds which I personally have not yet tried, which they claim are more tender.

Onions: To get an early crop, and also extra large, mild bulbs, start a flat of seedlings in the hotbed or cold-frame as soon as this can be used in the spring. These should be cut back a couple of times during growth and transplanted during the last part of April or early May outside. Fill the flats with rich compost and put a half inch or so of clean, moist sand or earth on the surface. Green onions for eating raw are grown from small bulbs called "sets," or from one of the several perennial onions. The soil should be made very rich and perfectly prepared, as the seed is small and the work of keeping the crop clean during the early stages of growth is, under the best of conditions, a hard job. Plant the crop out-of-doors as early as possible, sowing the seed quite thickly if there is apt to be trouble from the onion maggot, and give level culture frequently while the crop is growing. Keep this up until near the end of the season, as the tops will not shade the ground the way carrots and parsnips do. When the tops turn brown and dry the onions should be gathered and raked into wind rows, until they have become thoroughly dried off, if necessary, turning them over with a wooden rake every day. Store under cover in an airy place, where they may become thoroughly dried, and remove their tops before throwing them in a slatted barrel or in an open crate in a frost-proof cellar for the winter. Gigantic Gibraltar and Ailsa Craig are fine varieties for starting early, and will give a large onion almost as mild as the imported Spanish ones. Prize-taker and the superior Southport Globes, red, white and yellow, are good for the outdoor crops. White onions are the mildest and best in quality, but are harder to cure (they should be cured under cover, for they turn green if exposed too long to the sun after pulling, and will not keep as long). A few of the small White Queen may be sown to use during fall, as they are the earliest to mature; they are also good for pickles.

Parsnips: This vegetable should be started as early as possible. The seeds take a long time to germinate, so the

first weeding must be attended to promptly. You can begin to use them as soon as they are large enough, but their quality is greatly improved by a good, hard frost. Part of the crop may be stored in the same way as beets, but the rest may be left growing in the ground or stored in a pit outside to use in spring.

Potato: The potato is entirely distinct both in character and culture from the preceding crops, and should not be planted until danger from hard frost is over. An extra early crop can be obtained, however, by selecting a peck or so of some early variety, such as Irish Cobbler, and cutting to pieces containing one or two strong eyes, and in somewhat the shape of a section of an orange, so that they may be packed together on end in a flat of sand. In moderate warmth and light these will form a dense mass of roots and very short, strong sprouts. If these are set in rich furrows, a little later than you can safely plant outdoors, and covered two or three inches deep they will be above ground in a few days, and will make a surprisingly rapid growth. For the main crop, open up furrows with the hoe or cultivator to two and a half to three feet apart—the former width could be used much more often than it is—and drop pieces containing one or two strong eyes about twelve or thirteen inches apart in the row. If the seed is at all scabby, soak the seed before cutting in a solution of 1 pint of commercial formolin in thirty gallons of water for about thirty minutes. Keep cleanly cultivated and the ground loose. As the vines begin to spread, draw the earth about each plant lightly, making a broad, low hill. Spraying with Bordeaux mixture and arsenate of lead every ten days or two weeks, keeping the new growth covered, after the plants have attained a height of six to eight inches, will keep off both blight and potato bugs. The part of the crop to be used for storing should not be dug until late fall after the vine dies out.

Salsify (oyster plant): When this is properly cooked it is the most delicious of all vegetables. It should be grown in the same way as parsnips, but the root, being even more long and slender, it requires a thoroughly prepared, deep soil, in order that the roots may grow smooth, as it has a tendency to "spangle."

Radishes: To have these widely appreciated little appetizers in prime condition, the sowings can hardly be too frequent or too small. Specially manured soil should be avoided, and the ground should not be too rich, although plenty of potash is desirable. It is also a good plan to have a small pail or box of gypsum or land plaster on hand, and to strew a few handfuls of this along the row in which the radishes are to be planted, and work it into the soil before dropping the seed. There are innumerable varie-

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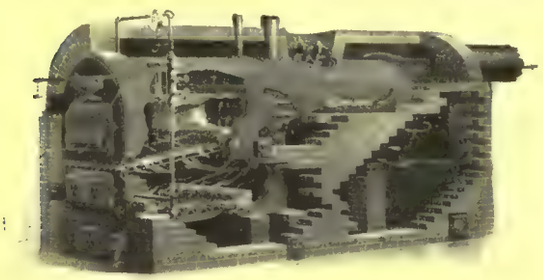
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ties, but I prefer true stock of the Crimson Giant Globe to any other I have tested.

Turnips: These are the quickest and the easiest of the several root crops to grow, unless maggots give trouble. Avoid freshly manured soil and do not plant after cabbage, cauliflower, or other similar crops. For the first planting I use Petrowski, a very rapid-growing, sweet little yellow sort not as well known as it should be, and early White Milan. For a continuous succession, plant at least once a month in small quantities. The last sowing may be made during July, or even in early August, if conditions are favorable. For this planting, for roots to keep over winter, I use Golden Ball and White Egg.

Up Hill to Our House

(*Continued from page* 182)

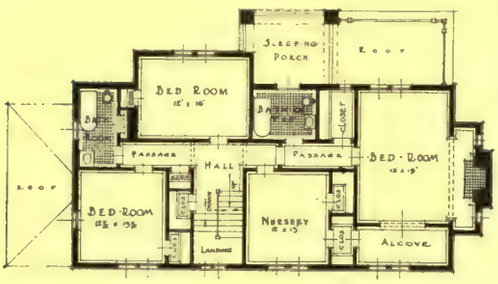
sowed the seed right after a light rain and then rolled the land. This was done about May first. Then the clover was ploughed under by August first, and every ten days after the ground was harrowed to kill the weeds. On September 1st we sowed again the same amount of slag. After harrowing the land we applied at the rate of 1½ pounds per square foot a grass and grain fertilizer for fall seeding. The total cost for these fertilizers amounted to about $35, and the benefit to the soil would be retained from ten to twelve years.

For the pasture we made a mixture of 1½ bushels of orchard grass, 14 pounds of Fancy Red Top, 1½ quarts of Alsike clover, 2 pounds Meadow Fesque, 3 pounds of Meadow Foxtail, 2 pounds Fall Meadow Fesque, 4 quarts of timothy seed, 2 pounds white clover seed, 2 pounds of crated dog's tail

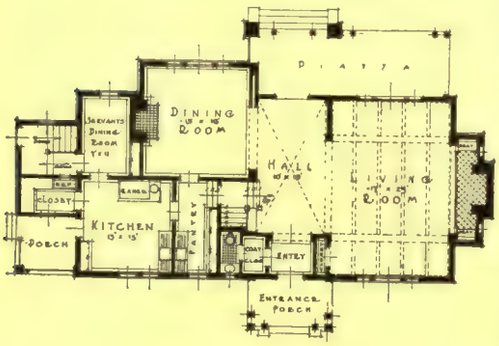
The seed was to be divided and a half sown one way of the field and the other half in the opposite direction. We bought a standard lawn grass mixture for the lawn, to be applied according to their directions. I had had much difficulty in engaging labor at the necessary times, especially for the plough and harrow jobs, so that we were slightly behind with the work and I was in a continuous state of anxiety lest the delay and the rainy days would mean failure. The hours I spent at the telephone arranging for the work to be done seemed countless. Finally the ground was ready for the final seeding. The atmosphere was perfect for this all-important event, being moist and still, though a rain-storm seemed imminent.

The roller was engaged for Thursday. David insisted upon the ease with which he could sow the seed and the short time it would take. His confidence, of course, came from ignorance on the subject. Beginning late Wednesday morning, only a small space was finished that day. David, contrite and humble, advised me to engage a farmer to finish the sowing the following day. I canceled the roller, but

when I confidently ordered it to be sent on the following day I found it was engaged for the rest of the week. Unfortunately, before the ground was rolled, the hardest rain-storm which had visited Westchester county for years swept down upon our defenseless seeds. Imagine my despair as I walked from window to window and everywhere saw rivers rushing down the hillside whose sole object appeared to be to wash all my seeds into the valley. A slight ease to my mind were the drains, which proved to be placed in the right spots. Had they not been, much of the terrace would



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have been washed away. The storm finally ceased. Noah was not more thankful than I to see the water disappear. Gradually in a few days the tiny blades appeared, but to our amusement, in little tufts and streaks all over the place, lending to the land the appearance of a green-spotted disease. Each morning David and I ran down the piazza steps, and we had enough exercise for the day bending this way and that over the grassless spots, trying to discover a green sheen.

When we left our house to make a visit we went with heavy hearts. We returned several weeks later, arriving in the evening. David took a lantern, and in solemn procession we walked out upon the terrace. David broke the silence: "Isn't that nice?" he exclaimed; "the ground is covered with grass." "Yes," I gleefully cried; "it is glorious—I am sure Mother Earth has spread herself to make us happy in labor and hopes repaid." Whether the rain had beaten the seeds into the ground, spreading a cover of



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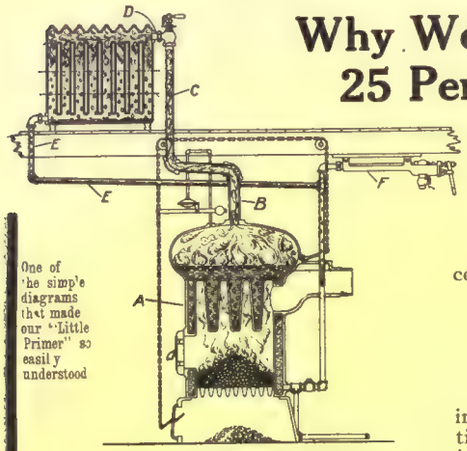
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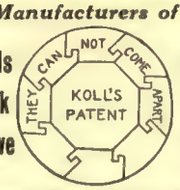
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earth over them, or whether we had sown the seeds too thickly in the first place, we will never know, but the lawn and meadow speak for themselves as to the success of our scientific method of farming.

The Legend of the Willow Pattern

IN a recently published paper, prepared by Mrs. Elliot J. Aldrich, who has an interesting and valuable collection of old china containing about three hundred pieces in her home in Old Hadley, Massachusetts, is found this prose form of the story of the "willow pattern:"

. . . . "When Mary Lyon opened Mount Holyoke Seminary 'willow' was the pattern on the crockery used. The following is the legend of the willow-ware. A certain Chinese nobleman had a beautiful daughter named Li-chi, with whom a humble secretary named Chang fell in love. In spite of the difference in their condition, Chang wooed and won Li-chi. But when he asked the Mandarin's permission to marry his daughter the great man flew into a terrible rage, and absolutely refused ever to give his consent to such a union. The lovers, being exceedingly devoted to one another, felt they could not live apart, so they arranged to run away together and get married. Now, the palace of the mandarin stood near the water-side, while Chang's home was upon an island not far distant. Thither the young man thought to take his beloved; so, assisted by the mandarin's head gardiner, who was his friend, he laid plans for a boat to come one night to take Li-chi and himself across the water. But, alas! Very soon after the mandarin learned whither the runaway lovers had fled, and quickly folowed them. So terrible was his wrath that he was about to flog them to death, when, by the merciful power of magic, they were turned into turtle doves, and so escaped his cruel rage. And, as turtle doves we may think of them as living happily ever after. But it will be noticed that the bridge pictured in this pattern is zig-zag. That is because the Chinese believed that evil spirits could not turn corners, but must go in straight lines. They therefore built their bridges and walls in a zig-zag fashion so that demons could not follow them." In a nutshell, in the words of another writer: 'the princess and her lover flee from the angry mandarin—a kind fate changing them all into birds,—the bad mandarin flying out to sea, while the lover birds hovered forever over the bridge."

In Longfellow's "Keramos" is found this reference to the familiar design:

"The willow pattern that we knew
In childhood, with its bridge of blue,
Leading to unknown thoroughfares:
The solitary man who stares
At the white river flowing through
Its arches, the fantastic trees
And wild perspective of the view!"

A Bounteous Garden From One Plant

(*Continued from page* 175)

don't plant them in the same place two years in succession.

With the practical matter out of the way, all the fascinating study and hybridization and aim for new types and varieties is your opportunity.

If you are an amateur gardener the sweet pea is one of the best flowers with which to begin work, as it is easily grown in almost any kind of soil and yields readily to cultivation, being, as a German doctor whose avocation is flower growing says, "A thankful flower"—thankful for slight attention. In the garden it gives pleasing decorative effects when planted close up to buildings, walls and fences, and trained up against them on wires and strings, or grown in long rows and supported on wire netting or boughs. By picking the blossoms daily plants can be kept in flower continuously for months. If you are an amateur experimenter it answers equally well; and whether you accomplish much or little the work is well worth while, for the new light the experience throws on the world of living things, the problems with such men as Mr. Luther Burbank are struggling in an effort to make this world a better place in which to live.

The following are simple directions for "crossing," the process through which all changes in form and color are produced. Use seeds of the Spencer varieties and plant as directed. If you wish chance to play as large a part as possible, plant two selected varieties close together and watch the flowers as they develop.

With all the Spencers, the keel, which encloses the organs of reproduction, being quite open, in many cases the stigma protrudes from the shield long before the anthers are ripe, and because of this insects, wind and unexpected means easily effect pollination—an impossibility in the older varieties, in which the keel is entirely closed and self-fertilization the only means of reproduction. If you get a natural cross it may prove a prize. If you wish yours to be the directing hand, begin with the small buds of a selected variety as soon as they can be handled. On examination you will find the stamens united by their filaments to form a tube and the ovary in this tube. The anthers are free and the stigma at the extremity of the pistil is placed just below them. When ripe the pollen sacs on the anthers burst, and the pollen falls, completely covering the stigma with minute grains, and thus effecting fertilization. As the pollen sacs ripen early, the work must be done before the flower has a chance to mature. Use a very sharp knife, slit the unripe keel open and remove the unripe anthers to take away all possibility of self-fertilization. On the stigma place the pollen of the chosen flower. One effective way is to



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use a camel's hair brush; another to take the bud of a flower that has burst its pollen sacs and fasten it to the pistil, so that the pollen will drop on the stigma, which should be viscid when in proper condition. To prevent insects interfering with the work, cover each flower fertilized with tissue paper or a little muslin bag. Also mark each one with a card giving data. If your hybrids prove worth while, "fix" them by growing the seeds of the most perfect ones for several successive generations and casting out all reversions and wrong types until they come, at least, comparatively true to type. As to color dyes and iron in the soil, experience grants them no permanent effects. However, professional seed growers assert that the climate of California, which is not subject to sudden and severe atmospheric changes, does help in fixing colors, this being one of the reasons why the sweet pea seed of the world is grown in favored valleys between San Francisco and Santa Barbara.

The wonderful progeny of butterfly-like creations give us hope for the future. Just now Mrs. Hugh Dickson, Margaret Atlee, Margaret Madison and King White, prize winners of the Spencer type, are reigning beauties, and seemingly one is hard to please who asks for more than they offer. Yet, certain shades of red, blue and yellow are missing. And, then, why not new forms of peas as different from the present ones with waved and double segments as these are from their straggling, ill-conditioned progenitors? Experimental work with sweet peas is a fair field with favors for the successful originator of new varieties.

And now for varieties. Among all the colors here are some tried and true beauties:

White—Nora Unwin, Dorothy Eckford, King White.

Crimson and Scarlet—King Edward, Spencer, Queen Alexandra.

Rose and Carmen — John Ingman, George Herbert, Marie Corelli.

Blue—Lord Nelson, Captain of the Blues, Flora Norton.

Pink—Countess Spencer, Gladys Unwin.

Cream Pink—Margaret Atlee, Mrs. Hugh Dickson.

Orange—Helen Lewis, St. George.

Lavender—Frank Dolby, Lady Grisell Hamilton, Aster Ohn.

Azure Blue—Margaret Madison, Wedgwood.

Maroon and Darker—Black Knight, Othello Spencer.

Striped and Flaked Red—America Spencer.

Striped and Flaked Blue—Prince Olaf, Senator Spencer, Helen Pierce.

Delicate Grey—Pearl Grey.

Choosing Flowers, Etc.

(*Continued from page* 187)

so it is, but it is a glorified red-lead; you can't banish it; it is too beautiful. If you have a large garden you can isolate it; if you have a small one put a bush of weigelia Candida (white) behind it, plenty of soft white, such as *Valeriana officinalis* around it; put your pink and purple as far away as possible, shut your eyes and ears to the rest of the garden, and "let 'er shout." I revel in one joyous week of barbarism every June and "color scheme" for the rest of the year to make up for it. But you must make up your mind to subside for that one week, and let the poppy dominate everything.

A scarlet flower, in color almost as vivid as the poppy, but with much less show of bloom, is the Scarlet Lightning (*Lychinis Chalcedoniaq*. The flower heads are about two inches across and are composed of small four petaled flowers, which give the plant another name of "Maltese Cross." It is a good color and a useful flower in the border, hardy and gay. The variety "Haageana" has very much larger flowers and is a splendid color. There are very good Snapdragon of a deeper, more velvety scarlet than the Poppies or Lychinis.

Certain Phlox, notably Ferdinand Cortez and Coquelicot, verge upon the scarlet, and Miss Jekyll uses the latter in some of her scarlet borders, but if one may venture to disagree with so great an authority, it seems not quite deep enough to be acceptable, and this is the criticism I would make of all the so-called scarlet Phlox; they are really a flame-pink.

There are, however, some wonderful scarlet gladioli; the old and inexpensive Brenchlyensis is good, and one of the finest newer ones is Princeps, which has a wonderful, widely opened, blossom, marked, but not to the point of splashiness, with white. It is one of the most beautiful blossoms I have seen.

Pentstemon (or *Chelone*) *Barbartus Torreyii* is a loudly praised scarlet flower, and it is very pretty, but, to my mind, not quite so wonderful as advertised. It is, however, quite good enough to include in the scarlet border; it is only a sort of Aristides the Just among flowers, so much has been said in its praise that one is a little disappointed in the reality and tired of hearing about it.

There are numerous fine scarlet dahlias; advance and Firebrand are beauties of the cactus type, and *Souvenir de Goustave Douzon* is a splendid decorative. These all have an orange tinge. There is a very brilliant scarlet ponpon, the name of which I cannot yet place accurately. The dahlias are about the latest scarlet perennials, as I know of no scarlet chrysanthemums.

Turning to the scarlet annuals, the various red poppies are delicate and good. There is a very fair scarlet phlox *Drummondi,* but it is not quite so good as the other colors. I have already spoken of

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the Celosia, but it must be remembered it is for special uses, and not good in the border. A very pretty little flower, and one that self-sows freely, is *cascalia,* or Flora's paint-brush. I suspect this of being one of the Hawkweed family, and its blossom is so small that it is not particularly useful in a color scheme, but it is a very good, clear tone, and is the sort of a flower that children would love to have in their gardens.

The scarlet nasturtiums are lovely, especially the dark-leaved kinds usually described as crimson, but they are just a little too yellow to be crimson; really they are a deep blood-scarlet. The dwarf form of this dark-leaved varety flowers very freely, and is a good edging plant. The scarlet verbena is a beautiful glowing color—clear, soft and altogether delightful.

Of course, the best-known scarlet annual is *Salvia Splendens,* in all its varieties, and I must confess a sneaking liking for it, but not in the mixed border. I will admit that it belongs to the "late Philistine" type of architecture, and that it is commonplace to the last degree; a crude color, difficult to combine; not at home with other plants, distinctly a bedding plant and a very stupid and unimaginative flower, but if one's house be gray or white, or weathered, I do like a little of it along a porch or under a window.

The best scarlet annual, in my estimation, is the scarlet Zinnia. It comes (as do all the Zinnias) in several forms, tall, dwarf, etc., and there is no difficulty in getting the true color from seed, as there is in the pink and crimson varieties. There is a very compact, small-flowered type called "Little Red Riding Hood," which is attractive. The color of all these is good; they bloom until frost, and, prejudice to the contrary notwithstanding, they are most satisfactory as cut flowers if properly used. The Scarlet Runner bean is an attractive fence cover, if you need one, for the back of your scarlet border.

To sum up the careful use of reds, one must bear in mind that crimsons, as a rule, must flock by themselves, or with deep green or white. Some of them are even bad with cream white, because of the resultant "barber-pole" glare. If possible, use a very cold blue-white or a gray white with these. Crimson combines well, if carefully handled, with a rose pink of the same tone, shading down to a lighter tint of crimson, as it were, and using white in the group. On the other hand, strange to say, scarlet will not combine with the salmon or flame pinks. The rose tone *deepens* into crimson, and the crimson lends just that quality, depth, to the combination, but the salmon pink brightens into scarlet, which thereby overpowers and kills the softer color. Even the flame pinks are overcome by it, or else they cheapen the scarlet. A "dash" of scarlet can be used in a color scheme, where a "dash" of crimson cannot, on the principle of the above-mentioned use of the *heuchera.* Scarlet will combine with any yel-



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low, but not with orange, unless with yellow and green in the ascendant over both, for it kills the orange just as it does the flame pink. This does not apply to such vivid orange scarlet or scarlet orange, as for example the tritona, but to a clear orange, such as the African marigold. Cream white, using less white than scarlet, is always good, but remember above all things that just as blue needs yellow, so do all the reds need green of varying tones, preferably a dark one, although a soft, green like the Oriental poppy leaves is also good. Last, and most important of al, don't mix your crimsons and your scarlets, or you will be in the sad case of the poor lady who said to me: "I think red's a dreadful color; I planted a border of *all* the different reds, and it was the awfullest thing I ever saw!"

Painting and Papering Problems

(*Continued from page* 190)

Painted walls have this in their favor, that they can be kept cleaner than walls covered with paper. It is a mistake to paint a wall unless the plaster is in the very best condition and without any trace of cracks, or even hair lines. If there are cracks or hair lines, you may be sure that in time they will show through the paint, no matter how carefully it is put on or how many coats are given, and your wall will assume the appearance of a much-detailed ordnance survey map, with all the little streams and watercourses in the countryside marked distinctly upon it.

Don't attempt to paint fresh plaster in a newly built house, or you will have only your pains for your trouble. New plaster almost invariably cracks somewhat while the house is settling, and all the labor of painting would thereby be lost. If the walls are painted, plain colors may be used or stenciled designs of simple pattern applied. Stippling, too, is often pleasing.

Let us suppose, however, that we have decided upon paper as the most suitable covering, in the long run, for our particular needs. Next, we must survey the various kinds of paper available and take sufficient account of their manifold variety if we would choose wisely and to the best advantage. In choosing paper we must have regard to many things over and above available varieties—we must think of price, quality, the general color scheme of the rooms to be papered, the sort of furniture to be used, the purpose of the room, and, finally, its exposure and light. Not one of these items can we afford to neglect. If we do it is sure to crop up sooner or later and cause us trouble.

First of all, we must be scrupulously careful to secure congruity and fitness by considering the purpose to which a room is to be put, and then, in due order, reckoning the other factors that go to make up a successful treatment. For in-

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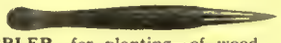
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stance, if a room is to be used as a living room or library, especially if pictures are to be hung on the walls, it will be manifestly inappropriate to select a paper with a large, insistent pattern of flowers, foliage or birds. The presence of the bold pattern will make the wall "uneasy" and destroy the restful quality of the whole room. The birds or flowers will crowd the pictures and distract attention from the books, which ought to supply the dominant note in a room largely devoted to their accommodation. Then, again, it would be equally inappropriate and absurd to hang the walls of a nursery with paper covered with a rigidly formal mythologic design wrought in the French style of a century or more ago, or with a dainty Adam pattern. In other words, in the selection of our wall papers, we must make the subject of the design fit the purpose of the room, and pick out such as will be suitable for the general uses of the rooms to be treated.

The next factor to be reckoned with, after congruity or fitness, in successful papering is agreement and consistency with the general color scheme chosen. Suffice to say that nothing will ruin the whole effect of a room quicker than a wall paper of ill-chosen color and pattern, while, on the other hand, no one feature wil conduce more to decorative harmony and felicity than a paper of suitable tone.

The walls of a room occupy a place quite analogous to the background of a picture. If the background of a picture is amiss in color it can readily be seen how serious the trouble is. Just so it is with the wall paper in room treatment.

Another consideration to be kept well to the fore in selecting wall paper, as noted before, is the kind of furniture that is to be used. This alone will decide a very important question—whether we are going to regard the walls as a background or whether we are going to treat them as a decoration in themselves. If pictures are to be dispensed with and bric-a-brac and the smaller items of furnishing equipment to be employed only with the utmost restraint, then it is plainly appropriate, if not, indeed, necessary, to consider the walls as a decoration in themselves, and treat them accordingly. If, on the other hand, pictures are to be used and a reasonable complement of ornaments, hangings and small furniture, such as sconces, vases and candlesticks, then it is very clear that the walls must be kept in check. No middle ground betwen these two extremes of treatment will ever be quite as successful or satisfying as one or the other antipode of style.

As it is much more usual to follow the custom of regarding the wall as a background, although we often do it unwittingly and without taking trouble to analyze the situation, we shall consider that phase of the subject first. The treatment of backgrounds presents the difficulty of



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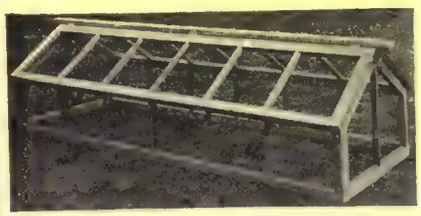
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keeping them from becoming dull on the one side or restless on the other. Life or vitality and repose are equally essential. The background must give support and richness without being assertive.

It must always be kept in mind that "a wall is flat, solid and upright." If the wall is to be regarded as a background it must be treated as a flat surface, and if it is to be consistently flat, all decorative patterns employed must be flat, and not realistic or pictorial. There must be no embellishment with perspective and its different planes to destroy the flatness and weaken the solid effect. It naturally follows that any decorative patterns introduced must be conventianalized.

This is not as narrow a restriction as might at first appear, but leaves a large liberty in choice and treatment of design, and practically bars out only the "natural" modes of expression that are generally so offensive. As a very simple instance of what is meant, conventional treatment of flat, unshaded roses would be quite permissible, while a design of "natural" roses with shading and obvious attempts at perspective would not.

At the other extreme we have the landscape papers of the Eighteenth Century, which are distinctly pictorial and full of more or less successful attempts at perspective. Such papers are sufficient decorations in themselves, and should be left in undisputed possession of the walls. Many of the old patterns are now being reproduced from the old blocks, and some, considering all things, are reasonable in price. In artistic technique they range in excellence all the way from the old French papers with classic cartoons by David and his contemporaries, through the forest, court, hunting and sea scenes to be found in the hallways and rooms of many ancient houses, down to the semi-Chinese treatments in which the element of perspective has approximated the Oriental idea and almost wholly disappeared. Indeed, many of these last-named papers are so "flat" and so closely approach conventionalized designs that they are not so exacting in the matter of draperies and ornaments as the purely pictorial papers.

Unless a whole volume were devoted to the subject of papers alone it would be impossible to do more than indicate the possibilities open to the amateur or professional decorator. We must, therefore, be content in the present instance with stating briefly the wall-paper resources that may advantageously be employed under ordinary circumstances, at the same time setting forth several guiding principles.

In additon to the landscape or scenic papers just noticed, nearly all of which are considerably more expensive than other papers, there is a vast aray of the ordinary run of papers, both plain and figured, to be found in any wall-paper shop at prices ranging from twelve or fifteen cents a roll to more than a dollar. Many of



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them are excellent in color and design and a discriminating purchaser with good taste can almost always find something to answer the purpose at a moderate cost. The main thing is to form a very definite idea beforehand of just what is wanted, and at the same time to keep clearly in mind the principles that ought to govern selection.

Besides these more usual papers of commerce, there are several varieties of wall coverings to which attention should be especially directed. For one, there is Japanese grass cloth to be had in various tones. It is both durable and makes a splendid neutral background against which almost anything will look well. Used by itself, its decorative value is considerable. There is a paper imitation of grass cloth—much cheaper, of course, —obtainable in various colors, and either plain or figured. Its effect is excellent.

Japanese gold and silver papers, plain or figured in delicate white or black conventional patterns, offer great decorative possibilities, and are not wildly expensive. Sometimes an excellent result may be obtained with these papers by covering them with the thinnest of rice paper. Other plain gold and silver papers come in small, oblong sheets, and can often be used to good purpose as a wall covering. After drying, it is an excellent plan to give them a coat of varnish or shellac. This mellows the tone, preserves them, and gives a smooth, easily cleaned surface.

Oatmeal, eggshell, and also a number of the felt papers, are worthy of special commendation. To some, it may seem strange to suggest butcher's brown wrapping paper and other sorts of wrapping paper as wall coverings, but decorators not infrequently use them with happy effect. Many of these coarse papers are of delightfully melow color and, besides that, they are extremely cheap. Over and above the wall coverings here noted, individual ingenuity will suggest others from time to time to meet special needs.

If one were asked to make a general recommendation for papering, one would unhesitatingly choose simple, quiet papers, preferably quite plain. Of course, there are numerous instances in which figured papers, and even boldly figured papers, are desirable.

One of the most important things to aim at in papering a house is unity. Sometimes the effect of a whole house, or at least a whole floor papered in one paper, is particularly good. It is a recognition of the principle that the house should be considered as a whole, and not as an aggregation of individual rooms, each one of which is to be treated differently, like so many samples of styles in a department store.

By using one paper, the relationship of one room to another is honored; the paper is kept from obtruding itself upon one's consciousness—this is an extremely

important thing—the apparent size of the house is increased, and withal a quiet dignity is attained.

Contrasts—and contrasts are most desirable and necessary to successful furnishing—can be gained in many other ways, by the hangings or a particularly fine vase here or there, for instance. Another reason for recommending plain, rather than figured paper, for general use is that in most cases we wish to increase the apparent size of our rooms. Plain paper will have this effect, while figured paper, especially paper with a large pattern, tends to reduce the apparent size. Other things being equal, plain walls apparently recede, while patterns bring the walls closer together.

Of course, there are hundreds of cases where it would be neither expedient nor desirable to paper all the rooms on a floor alike, but it is always possible to maintain a judicious harmony between the colors used.

In closing, let us give one extremely practical and important piece of advice which no one can afford to disregard. Have your walls thoroughly scraped, so that no old paper remains on; then have them thoroughly sized. Lastly, even though you are having the cheapest butcher's paper put on the walls, employ the best paper hanger you can get to do the work. It is far better to have cheap paper well put on than expensive paper indifferently hung. Unless paper is properly put on it is apt in a short time to crack and pull away in the corners, show seams and bulges and otherwise betray the incompetent mechanic, to the great annoyance of the owner when it is too late to remedy the trouble, except by having the work all done over again.

Garden Suggestions and Queries

(*Continued from page* 196)

thoroughly saturated with water all the time, and the saucer is kept in a warm, sunny place without shade.

Whichever system is used, as soon as the newly formed roots are one-half inch or so long, the cuttings should be potted up into small pots, using finely-sifted soil with plenty of humus in it, so that it will not pack. Water sparingly at first.

Advancing the Potato Season

IT is possible to have potatoes large enough for use at least two to three weeks earlier than by the usual way of planting, but care and a few special considerations are necessary. The soil should be rich, well drained and located in a sheltered position, protected as much as possible from north and west winds and fully exposed to the sun.

The plants should be started in a mild hot bed about three weeks before the earliest date on which it would be safe to plant in the open ground. I mean by

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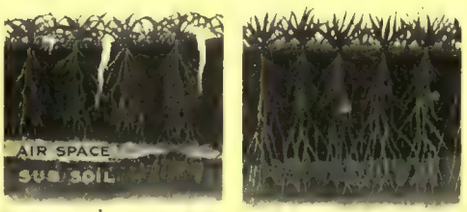
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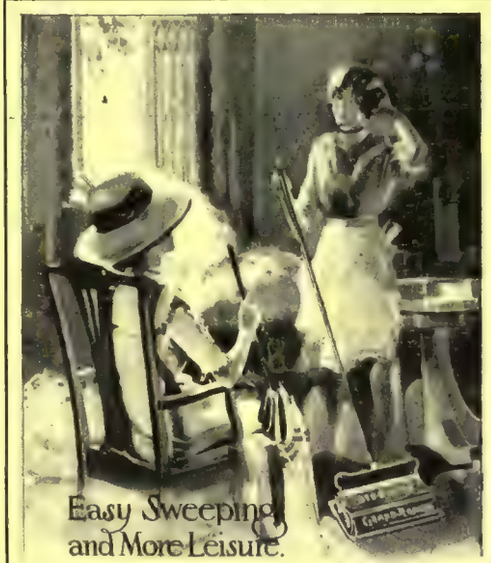
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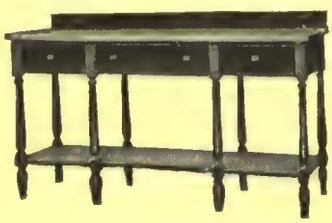
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this, about three weeks before it would be reasonably safe to set the plants out, on account of hard frost. The hotbed should only be a mild one, and need only be covered with canvas instead of glass.

I grow the plants in what is known as "dirt bands;" also used very extensively in growing early cucumbers and melons. They are simply strips of wood veneer cut from blocks of tough, green timber and scored so that they easily fold into a box four inches square. The ends lap, and can be fastened together with small tacks; but this is really unnecessary, for I find that they soon mildew and stick together after remaining for a short time in a hotbed, and can then be handled without coming apart. These "dirt bands" do not have any bottoms and are really better without, if carefully used. The surface of the earth in the frame should be made smooth and level, and the "bands" folded and placed close together. They fit snugly and leave no waste space. If the "bands" have become dried out they should be placed in water for a few minutes before folding, to toughen them up and prevent breakage. After the desired number of "bands" are in the frame fill them nearly full of rich soil, pressing it down with the hand in each "band," so that all vacant spaces are filled; then place one piece of the cut seed potatoes in the center of each "band." Scatter mellow soil over the surface of the bed, covering the seed about one inch deep. The hotbed, or cold frame, should be kept rather close until the potatoes are coming through; then the covering removed during the day, and, as the plants become larger, lift off entirely, unless likely to frost, the desired object being to secure stocky, hardy plants.

These "dirt bands" hold enough soil to allow the plants to grow a foot or more in height and ready to begin the formation of small potatoes. When the plants have attained sufficient size they are ready to transplant. The time for this depends on the season; one can easily have the plants ready any time after the 20th of March, but it is not safe to set them out before danger of heavy frost is past. When ready to transplant to the garden, give the plants a good watering; then lift them by pushing the fingers of one hand under the bottom of the "band;" place on a flat and carry to the place intended; slip the "band" from around the plant and draw up moist soil around the roots, and firm with a hoe.

A Woman's Gardening Costume

(*Continued from page* 191)

course the sun is not going to shine under such a brim as this, but red will temper the reflected light which often burns a delicate skin, and is, therefore, an added protection.

For the feet, above all things, never wear canvas shoes. Open sandals, such as children wear in summer, are, to my



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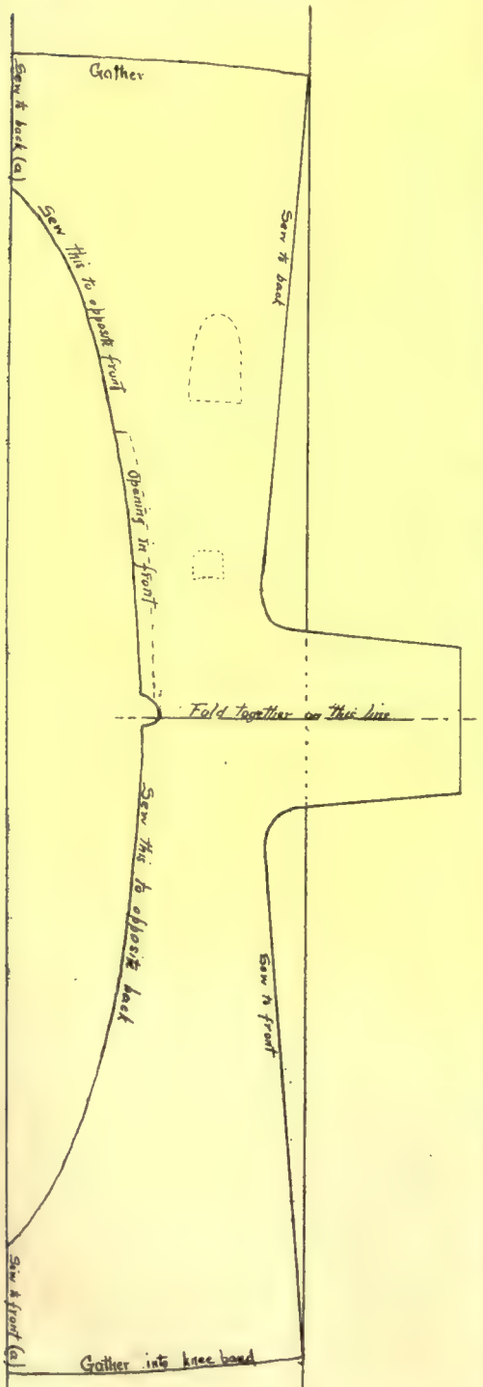
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mind, the most agreeable footgear, because an open shoe that is wet is less unpleasant than a wet shoe that has no openings, and wet one's shoes are bound to become if any gardening is done at that time of day which is the most ideal for such work—the early morning before the dew is off. These open sandals dry out quickly, and with two pairs one is always dry-equipped at the beginning of the work, anyway. Of course, this is a matter of personal choice and some may not mind wearing rubbers.



I do not regard them as nearly so good for the feet, nor do I believe they are as hygienic as the wet, open sandals, even though they may keep the feet dry. Gaiters of khaki I sometimes add in cool weather or when the iniquitous mosquito is very much in evidence, and always gauntlet

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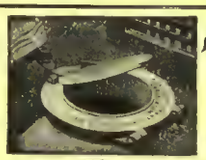
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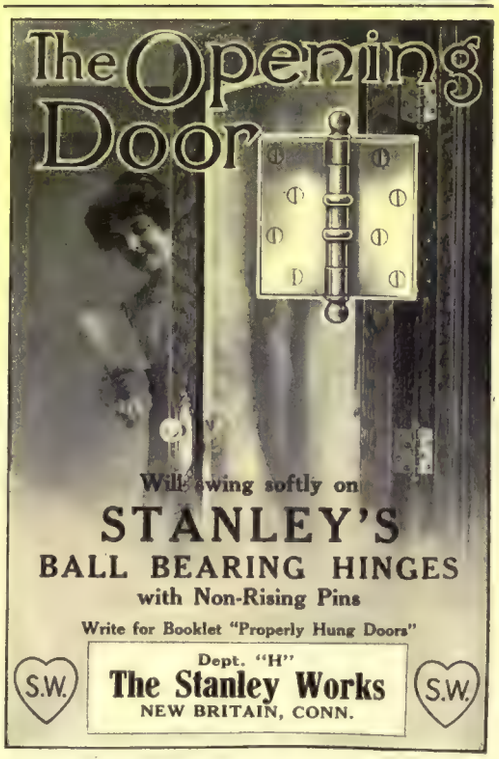
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Then, to establish their hardiness, I winter them out-of-doors. A Rose from the outside, that has had five months of rest, is bound to give you better results than one taken right from a greenhouse bench.

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With Fairfax Roses, and the directions, "How to Grow Roses," contained in my 1914 book, you can have blooms better than you ever imagined possible. My book describes the 150 kinds of Roses that thrive out of doors, gives engravings of these from nature, and lists the best of the flowering plants, bulbs and shrubs. May I send it? Free.

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EVERY Max-Ray Lamp sheds more than light—it gives an atmosphere of personality and individual charm. They are made by artisans who are artists—whose work is beyond imitation.

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A Little Book of Brittany
By ROBERT MEDILL

A graphic and enthusiastic portrayal of the principal towns of Brittany — their people, customs, and buildings. Illustrated. 75 cents net; postage 6c.

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gloves, long enough in the wrist to cover the bottom of the sleeve, are advisable. Two or three pairs of these are necessary if one is to do daily work, and at least one set should have the fingers cut away to facilitate the handling of small plants and doing work which requires delicacy of touch.

So much for the outside; what goes on beneath will be, of course, a matter of personal choice, but the less the better, ordinarily. Of course, it is possible to put this gardening garment on over a white gown if one chooses, for the skirts are fully protected; but I do not believe it is possible to work as freely and as efficiently in the ordinary daytime dress as many people seem to think it is, and I believe we would find our gardening time was far pleasanter if we prepared for it quite as definitely as for a swim or a ride on horseback or any other pleasure which by its nature requires special dress. If there is not time, however, for changing from one set of garments into another, there is not, of course, actual necessity of doing so. In this event, I should advise facing the bloomers up about eighteen inches with rubber cloth of as light a weight as you can get. This protects the skirts beneath absolutely from being soiled or drabbled, as they are likely to become, even when confined by the bloomers, if one is handling a hose or working in heavy dew.

Looking into the Poultry Question

(*Continued from page* 168)

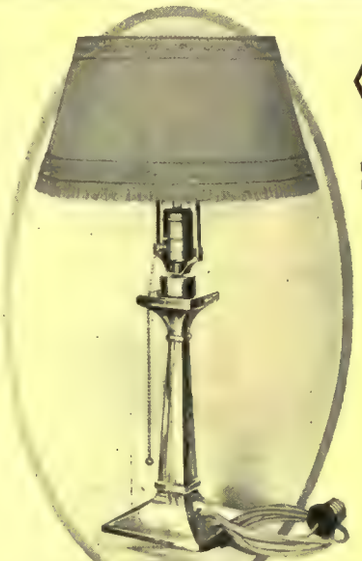
The ground color of this bird is a deep, rich red, while the feathers are laced with white. The tails are snow white, with red quills, and the legs and beak are yellow. This is a most satisfactory breed for very cold climates, as they have low pea combs, while the wattles are so small as to be practically non-freezable.

Probably no chickens are more interesting to raise, for they are continually changing color as they grow. One gets quite absorbed in watching the endless transformation. When hatched, the color of the chicks is primrose. The first feathers which show are white. After a few weeks color begins to come, but it is not until the youngsters are six months that this color deepens into the dark red of maturity.

Much has been heard of late about Anconas, both because of their prowess as egg producers and because of their mottled black and white beauty. The appeal to the eye made by these birds is very strong, and they deserve their popularity. Their general characteristics are similar to those of the Leghorns. They are active, nervous and high flyers. Their eggs are white, and it takes two dressed birds to yield as much meat as one Plymouth Rock. Where they can be allowed to range over the fields they add much to the landscape, and, incidentally,

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marks a new and wonderful epoch in the evolution of the old Colonial Candle Stick. Wired for electricity, as the illustration and name implies; it combines the lighting efficiency of the 20th century with the charming atmosphere of Great Grandmother days in its simple Colonial lines.

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Insist on having this H trademark on the glassware you buy—then you have high quality without high price. Our free book contains helpful hints for the hostess. Write for copy.

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All Flower Lovers are invited to send to the Dahlia King for his **Free Illustrated Catalogue**, which contains helpful descriptions and valuable cultural hints on **Dahlias, Gladiolus, Roses, Cannas, Peonies and Iris.**

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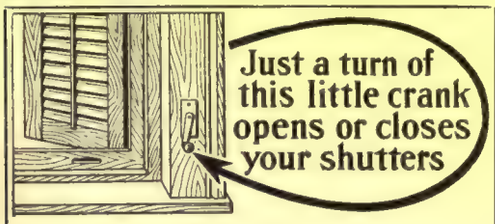
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pick up much of their living. Yet they stand close confinement very well, although they prefer to roost in trees. The writer allowed his first lot of Ancona pullets to run at large until he was ready to house them for the winter. Then he had to go out on a moonlight night and pick them out of the trees with a fruit-picker. The neighbors thought a general massacre of all the flock was going on. Now the pullets are coaxed to roost inside by feeding them late in the afternoon in their quarters, then quietly shutting the door while they are busy devouring the cracked corn.

If there is one strictly fancy breed, it is the Hamburgs. These exceedingly handsome birds in several varieties are particularly popular with society people who have a weakness for fine poultry. This is especially true around Boston, and at the Boston show one sees several of the names which also appear in the social register of the Hub.

Hamburgs are among the oldest of our standard breeds, and Holland is their native home. The city of Hamburg gave them the name they bear, but at one time in England they were known as "Dutch Everlasting Layers." It may be rightly assumed from this cognomen that they are prolific egg producers. The shells are white and the eggs are rather small. While they pay their way, these birds are not profitable if one seeks market eggs. The quiet beauty of the Hamburgs is sufficient to account for the popularity with fanciers. The Golden and Silver Spangled and the penciled varieties are most attractive, because of their graceful carriage and shape, as well as on account of their plumage.

Polish varieties, too, are bred mostly by fanciers who are not particular as to utility qualities. Yet Polish hens lay many eggs. The most ornamental characteristic of the breed is a large, flowing crest. With one variety this crest is pure white, while the body color of the bird is solid black. The effect is odd and interesting.

While the White Wyandotte is the most common variety in that breed, many other varieties have been produced, some of which are strikingly handsome. The list includes Silvers, Golden, Partridge, Silver Penciled and Buff. The spangled and penciled Wyandottes are among the most attractive of all the American breeds. To the list must also be added the Columbian Wyandottes, which are prized more for their utility qualities than those just mentioned. They have been hailed with delight by breeders who admire the Light Brahmas, yet hesitate to keep them on account of their feathered legs and unwieldy bulk. The Columbian Wyandottes closely resemble the Brahmas, except that they are smaller and have smooth shanks. They are most attractive when well bred, dress well, lay well, and are easy to handle. It is not

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Fruit from June to November — Very Ornamental

The plants grow vigorously, like a dwarf fruit tree. Canes grow from a central trunk. Can be trimmed to form a very ornamental border in the garden or on the lawn.

Ornamental Fruit Trees Are Very Popular

Plant these strong plants this spring and you will have berries this fall. Next June the old canes will bear and the new wood will bear after that until the snow flies. Fruit luscious, red and lots of it.

Many people say this is the finest berry grown. This offer appears only this one time: Send 30 cents for 1 plant; 60 cents for 3 plants; $1.00 for 6 plants; $2.00 for 15 plants; carefully packed and shipped, prepaid.



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Supplementary list of Bulbs, Hardy Annuals, Old Favorite Flowers, Special Shrub Collections, The Big Six Group of Hardy Chrysanthemums —all these effective groupings of the finest varieties are found in this helpful book, sent free on request.

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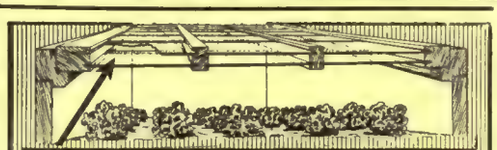
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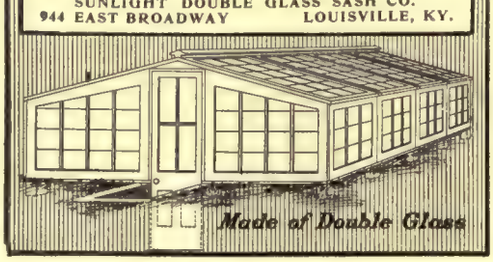
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These sash are in use by hundreds in every State in the Union and are paying for themselves every season in extra profits. The second layer of glass with the air space it encloses does away with the need for mats or boards. Here is a saving of 50% in cost and labor.
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surprising that they are being found in increasing numbers on the grounds of suburban breeders, who seek to combine both utility and beauty. Columbian Plymouth Rocks have come to supplement the White, Buff and old-time Barred Rocks. They can hardly be told from Columbian Wyandottes, except that they have single combs. In reality, the body conformation is supposed to differ somewhat.

Although they have but little practical value, there are hundreds of people who are very fond of bantams. Some breeds, like the Cochins and the Light Brahmas, produce a considerable number of eggs, which are large enough for use. Bantams are not kept for egg production, however. Their value lies only in the satisfaction they give as pets. Varieties are many, and some of the little creatures are wonderfully dainty and delightful. They become very tame and may be handled freely. Perhaps Buff Cochin bantams are as popular as any, but the Sebrights are bred in large numbers. As a rule, the bantams may be given the run of the grounds, as they are too small to do much damage.

Formerly ducks were seldom kept, except by farmers and the owners of commercial duck plants, but since the coming of the Indian Runners ducks of this breed are to be seen everywhere. They are highly ornamental and at the same time produce eggs with amazing liberality. One hundred and fifty eggs a year from each duck may be confidently expected. Of course, they make considerable racket when they lift up their voices in chorus, and it is not well to keep them in a thickly settled community. They drakes make no noise, but, unfortunately, neither do they produce eggs.

For the Good of the Neighborhood

(Continued from page 165)

In one beautiful suburban village where there is a considerable area of land owned by the municipality a park association has been formed to beautify and care for it. The work done by this association is most interesting. For a block or two a trolley line runs through this park. Shrubs have been planted on either side of the track, sod has been laid between the rails, and the poles have been covered with climbing vines.

One of the most noticeable results of this sort of work is the effect upon the individual property owners. An interest is awakened in beautifying the home grounds, each man trying to outdo his neighbor in making his place attractive, and what began originally from a seeming altruistic motive becomes at the last a personal and private asset.

Do You Love The Birds?

Song Birds Are Coming North Soon

Let me help you win some of them to live in your garden. My free book tells you how to attract, how to feed, how to make friends with our beautiful, native birds. Be a friend of the birds! Write for my book—now!



Here within one small garden—I've drawn rings about each—are five Dodson Bird Houses, a Sheltered Feeding Table and a Bird Bath. Hundreds of Native Birds live in this garden. The photograph shows—

The Dodson Automatic Feeding Table for Birds. Price, with 8-foot pole, $6—all-copper roof, $7.50. Size, 24x22x12 inches.

The Dodson Great-Crested Flycatcher House—$3, with all-copper roof, $4. Size, 15x11x8 inches.

The Dodson Bluebird House—Solid oak, cypress shingle roof, copper coping, $5. Size, 21 inches high, 16 inches in diameter.

The Dodson Tree-Swallow House—Size 12x14x9 inches, $3; with all-copper roof, $4.

The Dodson Cement Bird Bath—32 inches high; basin 34 inches in diameter, $12.

The Dodson Wren House—Solid oak, cypress shingle roof, copper coping, $5.

The Dodson Purple Martin House—Three stories; 26 rooms and attic. Over-all, 44x37x31 inches. Price, $12—with all-copper roof, $15.

All prices are f.o.b. Chicago.

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The Dodson Sparrow Traps are catching thousands of Sparrows all over America. Get one; banish the pest that drives away song birds. Strong wire, electrically welded, needle points at mouths of two funnels. Price, $5 f.o.b. Chicago.

If you love birds and want to have them live near you, get Dodson Bird Houses—the ones the **birds** have approved. Let me send you my illustrated book about birds. If there is any question about Native Birds you want answered, write me. I'll be glad to help any lover of birds.

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Mr. Dodson is a Director of the Illinois Audubon Society.



Pot with saucer 15 in. high; 17½ in. wide

Exquisite Italian Old Ivory Tint Pottery

The beautiful colorings and effects of the pottery of Florence and Rome you can have in your own garden—on your own porch.

With shapely vases and pots, graceful sundials and benches, charming boxes and pedestals—you can transplant your grounds to the very heart of Old Italy.

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is absolutely weatherproof—is very tough and hard—and decidedly inexpensive. Its neutral ivory tint permits its harmonious use with any color scheme of decoration, indoors or out.

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THE WHEATLEY POTTERY

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Established 1879

Chinch Bugs Best Destroyed During the Winter Months

THE chinch bug, which in sixty years has probably caused loss considerably in excess of $350,000,000 to American farmers, is more effectively destroyed during the winter months than later when it has left its winter quarters, according to the Department of Agriculture. The burning of dry grass, leaves and rubbish along the margin of woods and fields is the best method of destroying the pest at this season of the year.

The pest, which is distributed generally throughout the United States except in the extreme West, has caused particular damage to the staple grains throughout the Middle West. The greatest losses from the insect are suffered in Ohio, Indiana, Illinois, Kentucky, North Carolina, Missouri, Iowa, Wisconsin, Minnesota, Kansas, Nebraska, Oklahoma and Texas. The fact that this bug causes such widespread depredations makes this warning for its destruction during the winter of very general importance.

The chinch bug when full grown is only about 1/5th of an inch in length, and may be less. It may be described as black, with numerous hairs, also black. The under wings are white. There are two forms of the fully developed insect, one with long wings and the other with shorter wings. The short-wing form differs very much in its habits from the long-wing form, the first passing the winter in the meadows, which it usually attacks in preference to grain crops. The other kind may be observed flying about during Indian summer in search of winter quarters. The short-wing insects are not able to fly, and therefore cannot make such extensive migrations to and from winter quarters. The chinch bug with the short wings is found in abundance only in the East. The more dangerous long-wing variety ranges over most of the country between the Rockies and the Appalachians.

Pasturing sometimes aids in the destruction of the chinch bug. This is particularly effective to the northward in the Middle West when the grass is green and matted or occurs along hedge rows and rail fences so that it cannot be burned. Leaving the ground bare of vegetation permits the bugs to be exposed to the winter weather, and this kills them. It is sometimes possible to clear out hedge rows and along rail fences, piling the refuse to one side, where it can be burned later.

These measures should be carried out some time between now and spring (the earlier the better), before the chinch bugs leave their winter quarters and take themselves to the fields. In the southern part of the Middle West the burning is not very effective if done after February 1, and is very effective if done in November or December. Along with these prevent-



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Will put you wise as to the proper selection and care of

Trees, Shrubs, Bulbs and **Perennials**

No. 35, now ready.

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Import Prices of **Holland Bulbs**

which are 20% less than fall prices.

Your address to-day will bring these beautiful illustrated catalogues.

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and this is what the Director says about it:

"Our farm homestead has a shingled roof stained with your stain . . . moss green while the body of the house . . . is gray. This coloring has created no end of favorable comment, and many have been pleased to find it Cabot's Stain."
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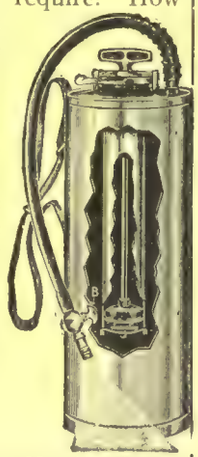
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The E. C. Brown Co.
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Rochester New York

ive measures, all grass growing on waste lands should be burned, and especially clumps of broom sedge in pastures and similar localities.

It is very important when grass is burned that it be dry, and yet burn slowly, so that the heat will penetrate the densest portions and reach the bugs. The bugs need not come in direct contact with the fire. This burning in early fall and late spring is not as effective as when done during the winter, for green and wet stems in the former seasons furnish protection to certain of the bugs. Even the most careful burning will not reach the bugs under this condition.

CORRESPONDENCE DEPARTMENT

Extracts from letters of inquiry as answered by our experts on interior decorating and furnishing

Editor HOUSE & GARDEN:

Will you kindly offer suggestions for painting and papering the rooms of the cottage of which I enclose floor plan?

At present the living rooms are in brown, woodwork painted to match. The bedrooms are in white enamel, and I think I would like that for living rooms also. What color paper should I use with it? Should living and dining-rooms be alike? The ceiling in dining-room is nine feet high, that of the other rooms is ten feet. The plaster of dining-room ceiling is in poor condition, what would you advice to have done with it? The china closet is of yellow pine, varnished. Should it be painted like the woodwork?

The floors are soft pine, grained and in poor condition. Do you know whether or not "Congoleum" is a satisfactory floor covering for use with rugs? In case it is necessary to lay new floors, what wood do you advise, and how finished? We hesitate to have expensive floors laid in an old house.

The dining-room is rather dark, especially in summer, on account of trees. Windows are all of the large two-pane variety. How should they be draped? Should I have curtains at the six-foot opening between living and dining-room?

I will be very grateful for any suggestion in regard to redecorating or remodeling the house to make it more modern and attractive and thank you in advance for your advice.

Yours sincerely,

MRS. S. D. R.

MRS. S. D. R.

DEAR MADAM:

By all means I should have the woodwork of the dining and living rooms painted white, the same as the bedrooms, and the china closet also.

Under separate cover I am mailing to you samples of wall papers, which would make your rooms attractive. The prices per roll are marked on the back of each, and the rooms for which intended.



Ensnare the Glories of the Moonlit Sea

Right in the circle of your OWN HOME and FIRESIDE!

"DRIFTWOOD CRYSTALS"

No one can really know the surpassing beauty of the effects obtained by sprinkling a pinch of DRIFTWOOD CRYSTALS upon the red-hot coal or wood embers in

THE OPEN FIREPLACE

In an instant a magic shaft of vari-colored light appears, ever changing like a kaleidoscope—green, blue, yellow, gold, old rose! The room is flooded and you are entranced with the melting green glory of the sea-strewn moonlight! The languishing blue of the sea-reflected Italian sky! The yellow of the passionate summer's sun piercing the crest of the rising wave! The lurid gold of the dying sunset rippling on the bosom of the sea like a mantle! The old rose tints that pave the way to night and darkness on the deep!

Make your fireplace a place of Romance! Make the evening at home wonderful!

DRIFTWOOD CRYSTALS are sold in one-pound boxes that last indefinitely. The regular price is $2.00 per box. Special price to those answering this advertisement, $1.00. This offer is limited. Money back if not as represented. Handsome little Birthstone and Memory Book sent free.

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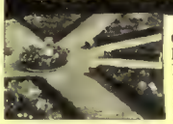
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I think your ceilings, which are in poor condition can be replastered as reasonably as any way in which you could make them satisfactory.

If you have to lay new floors, Georgia pine is good, and inexpensive also.

At the windows throughout, I should have simple voile or scrim curtains of a fine quality. These should hang perfectly straight. With the papers which I am sending you, I will send a sample of a most satisfactory grade, which I use a great deal myself.

Should you decide upon any of these wall papers, or should you care to have the curtaining, I would be glad to purchase any of the things I have suggested for you.

A Dining-Room Scheme

JAMES E. G.

DEAR SIR:

Replying to your letter of enquiry, we should say that your walls would look well tinted a tan color, but let the tone be a light tan rather than dark, as the latter eats up and lacks the reflecting power that you will find in a lighter tone.

Let your walls be in one tone and do not use a "cut-border wall-paper frieze. This would spoil the surface for any pictures you may wish to hang and at the same time cheapen your decorative scheme.

I think you make a mistake in having a picture molding hung directly under your beam ends. If heavy pictures must adorn your walls, place a short strip of molding under each beam for the pictures on wires and others can be hung on small nails or pushless hangers driven into the walls. You will thus keep the line of your beams and wall open, after all, rather a decorative feature.

For your windows there is nothing neater than scrim, either in white or cream, and the plainer the better, especially when many windows are to be curtained.

Your brown rug will do well in this room, especially as it is soft in its tone.

DINING-ROOM

It is often more pleasing to the eye to have one color tone throughout the house, particularly if it be a small one, and this, too, is true of curtains. Your casement windows may be curtained in scrim hanging perfectly straight and not caught back, as the size of the window does not permit this. Your French window should also be in scrim, with a rod at the bottom as well as the top, thus enabling you to open the windows without pulling aside your curtains.

Do not use a picture molding in this room, but hang your pictures on wall hooks. Picture molding is all right when used at the wall and ceiling angle, but in your case it will detract from your wall surface. Do not use a frieze. This, too, will give the room a show-window appearance and spoil your picture surface.

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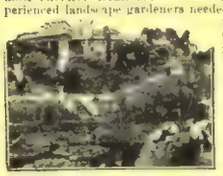
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A Living Room Scheme

MRS. A. B. T.

You will find that if you paper your walls downstairs all alike the result will be most satisfactory and pleasing. This may be in yellow, green, gray, soft tan or gray-blue and you will find that with your white enamelled woodwork this will be restful and not confusing, especially when the rooms open so throughout, forming a general vista. Your curtain, I would suggest, be made of fine cream scrim, quite plain in their making and allowed to hang straight, thus giving a bright glow to the window and, at the same time, warming the roof lights and shadows. Brass is always a delightful medium in furnishing, as it brightens up dark corners and its reflecting power is always a source of beauty.

A Bakers' Dozen of Old English Plates

THE collection of plates here shown has a variety of sizes ranging from ten to twelve inches in diameter. For colors it has those of the rainbow, shading from the azure blues to the deep shade of the willow blue, pink and mulberry tints, and touches of red, green and brown.

Beginning on the top row of the corner cupboard, from left to right, is a light blue and white plate with floral design and lacy-looking medallions introduced into the border. Printed in blue on the back of the plate in a festoon under a shield are the letters "W & B" with a small figure 2 at the lower right-hand side of the shield. Next is the "Ellesmere" one depicting a mother bird alighting on her tree-top nest, composed of flowers. A fine border is a feature of this beautiful bluish-gray plate, which bears on its reverse side an excellent representation of the British coat-of-arms in the same gray-blue color. This plate is from one of the Shropshire potteries, for in this county, which is south and west of Staffordshire, were many potters who had their works at Caughley, Coalport and many other nearby places. Ellesmere printed on the back of the plate is the name of the lake in the north part of Shropshire and the town which takes its name from the lake on whose western shore it is prettily situated. This lake is one of a cluster of picturesque meres or small lakes near the borders of Denbighshire, Wales, of which the largest is the entrancing Ellesmere.

The third of the plates on the first row is a dark, rich mulberry-colored one, of soup plate size, measuring eleven inches in diameter. It has as a mark on the back the blue-gray figure of an eagle, with "Clementson," "Iron Stone," "Cores." This is a Staffordshire one, as is the first plate on the second row from left to right. This is a blue and white bit, and on the reverse side is seen printed "Kaolin" with oak leaves in a scroll and a plume. The next plate on the second shelf is a "Daven-

(*Continued on page* 240)

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A Rose Message





To the Readers of House and Garden:

If you could only imagine the beautiful sight presented by all the wonderful varieties of our splendid rose bushes when they are bursting into leaf and then into bloom—it's really beyond the descriptive power of words. We cannot make cold black type glow with the glorious colors of the rainbow or throw off the delicious fragrance that fills one's nostrils as you stand enraptured and view our thousands and thousands of

"The Best Roses for America"

However, you may have plenty of these beautiful, fragrant roses right in your own garden. We bring you the glories of the best varieties selected from the principal rose gardens and rose nurseries of Europe. From Germany, France, Holland, England and Ireland, we have personally selected 14 of the choicest varieties introduced to the world during the past twelve months. Among these are the prize winners at the greatest European Flower Shows.

For example, there is the rose Mme. Edouard Herriott, which won the £1000 prize offered by The London Daily Mail at the great International Show of the Royal Horticultural Society. It is a strong, vigorous grower with bronze foliage and coral red buds shaded yellow at the base. The flowers are semi-double and their color is like sunshine on copper-red metal.

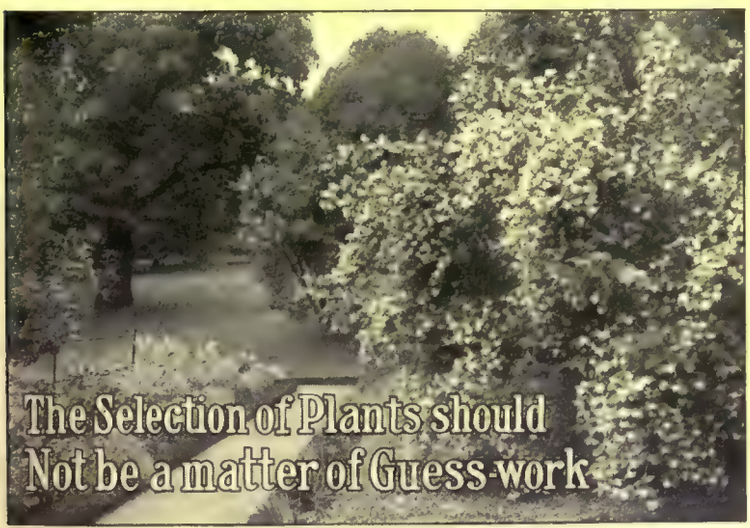
Another new variety you will like is the "Coronation." It is a wonderful Hybrid Perpetual and was awarded the Gold Medal by the National Rose Society of England. The Irish Elegance, a splendid single; the Mrs. Andrew Carnegie, a beautiful pink-white rose; and the Willowmere, a rich shrimp-pink, shaded yellow in the center with long carmine-coral buds—are three more splendid varieties. We are making a special price to anyone who orders a set of these wonderful new roses this season.

We could go on almost indefinitely naming one beautiful variety after another but space here is limited. If you will send for our **Free, Big Rose Guide** for the selection and culture of roses, you will find listed and fully described 360 of the very best varieties of roses for America. Without question, this is the largest and most complete assortment of **good** varieties ever listed. Every Conard & Jones rose bush is not only a carefully chosen variety, but is perfectly healthy and vigorous and grown on its own roots, with excellent development of both top and roots. We **guarantee each bush to grow and bloom.** No other firm has dared to do that! We prepay express charges on all orders for $5 or more.

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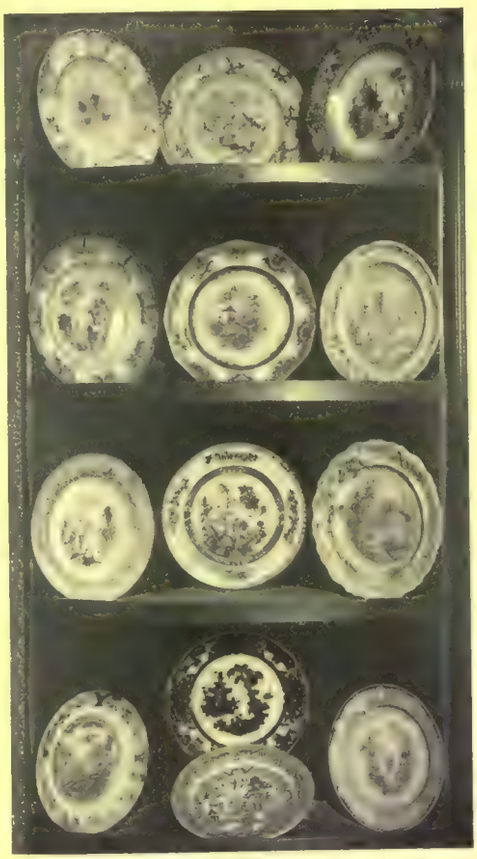
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(*Continued from page 238*)

port" (Longport, Staffordshire), that word "Davenport" being impressed with an anchor on the back of the piece, the name "Amoy" being printed there in blue in an oblong enclosure of the same color. The last charming bit of old English ware, the third plate on the second row, is also a blue and white combination, the blue being of a lighter shade than the one just described. It has for its design a stone-towered church in the distance, a farm-house in the sylvan scene, and two tillers of the soil chatting at the opened barnyard gate, while the sheep and fowl in the foreground complete the *genre* picture. This treasure was a gift from a descendant of



A baker's dozen of Old English plates

an old New Hampshire family. It is a piece from their large set of family dishes and one of a double dozen of plates, as the old-time number was twenty-four of each size. How well suited such provisions of numbers would be to the destructive tendencies of the present incumbents of our kitchens!

A pink plate of much beauty of color begins the third line, the only one of that hue in the Baker's Dozen. It has a design of urns and trees, a bit of water on which sails a boat, and a group of people in the foreground.

The beautiful "Coalport" plate, which is the one next brought to our notice, combines the reds, greens and browns of "the Indian Tree" pattern. It bears impressed on its reverse side the Roman numerals

(*Continued on page 244*)



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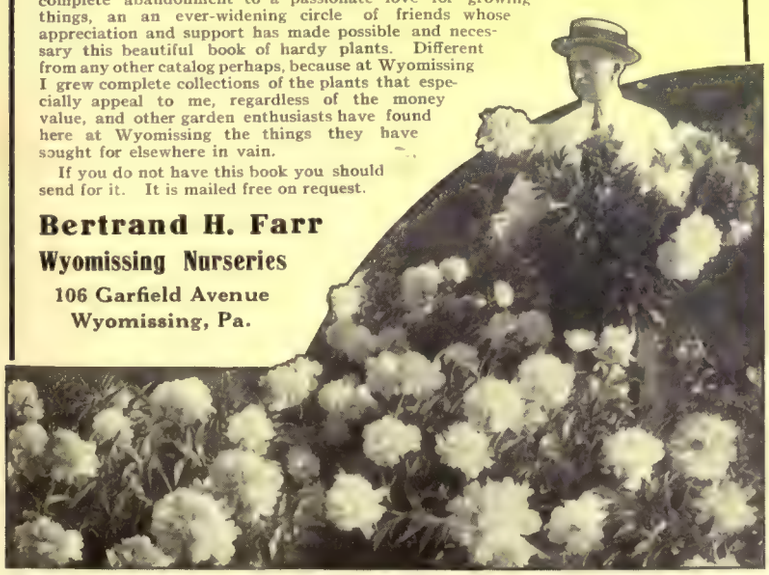
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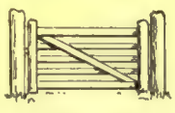
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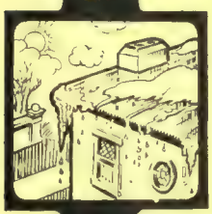
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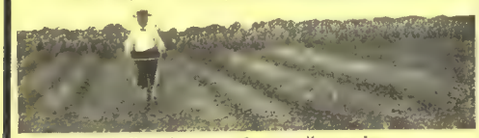
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(*Continued from page 240*)

VI. Mr. John Rose having removed the Caughley works to Coalport, Shropshire in 1814, and the Jackfield works thirty-four years previously, combined also the Swansea and Nantgarrow, Wales, factories at Coalport or Colebrook-Dale in 1820 and made there both porcelain and white wares. This piece is of very fine paste and when held to the light the fine coloring can be seen through the egg-shell like composition. The border is pleasing with its touches of a bronze-gilt combination.

The last plate on the third row is one of a purplish color with birds and flowers. In the deep border which surrounds the pretty bit of Hudson River scenery with trees and a boat, near Fishkill, New York. The mark on the back of this fine sample of old English ware consists of a circular stamp, impressed, of a crown surrounded by the words "Staffordshire Warranted." It may be a Stevenson bit, as the initials of the potter also impressed are somewhat indistinct, but the letter "S" is plain and suggests its being his work. The inscription printed on the reverse side of the plate also, on a jagged, upturned rock with a flat surface to the beholder, is "Nr Fishkill."

The lowest shelf has on the left another fine Davenport piece of "flow blue," with bridge, trees and a handsome border. On the back of this piece of Staffordshire one is pleased to discover printed in blue an anchor surrounded by the words "Davenport" "Stone China," the figure I being impressed. The second plate at the angle in the back of the last shelf is one of Mulberry coloring again, and the letters "P. W. & Co.," with "Corean" are printed on its reverse side in a design of a spread eagle with ribbon festoon effect. Next is another in blue and white combination, with a fine, lacy-like looking border, about the same size as the "Davenport" piece on this same row, which measures about ten inches in diameter. The final plate in the Baker's Dozen, which is in the foreground, one need hardly be told is one of the Willow pattern. What collection would be complete without it! On the back of this piece is found impressed the name of "Ashworth." The design has been copied into so many grades of ware that one has become familiar with its pictorial pattern. In some homes we are brought into intimate contact with it at meal time, and it is a good idea, especially where there are young folks in the family, to choose copies of good designs in dishes such as the Indian Tree, Willow and Onion for daily use, instead of impossible designs which have no especial meaning or artistic or educational value. The Willow pattern was introduced in 1820 by Thomas Turner in Caughley, Shropshire, having been designed by a decorator in his employ by the name of Minton.

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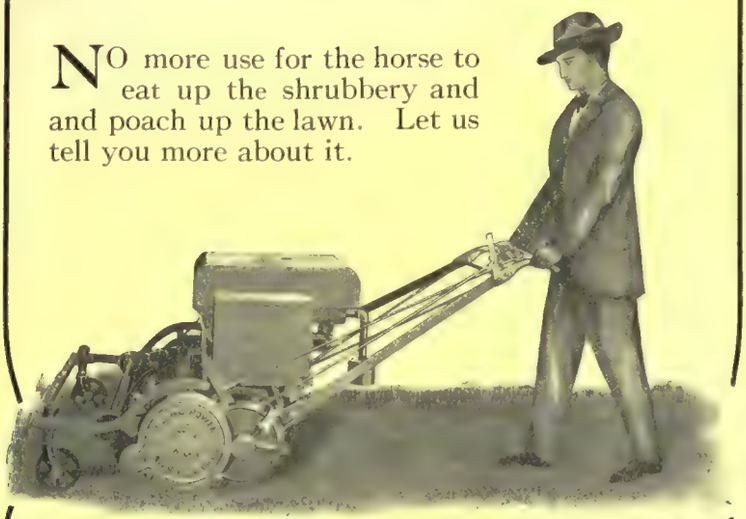
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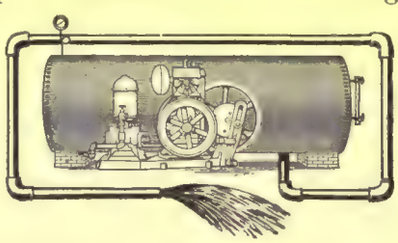
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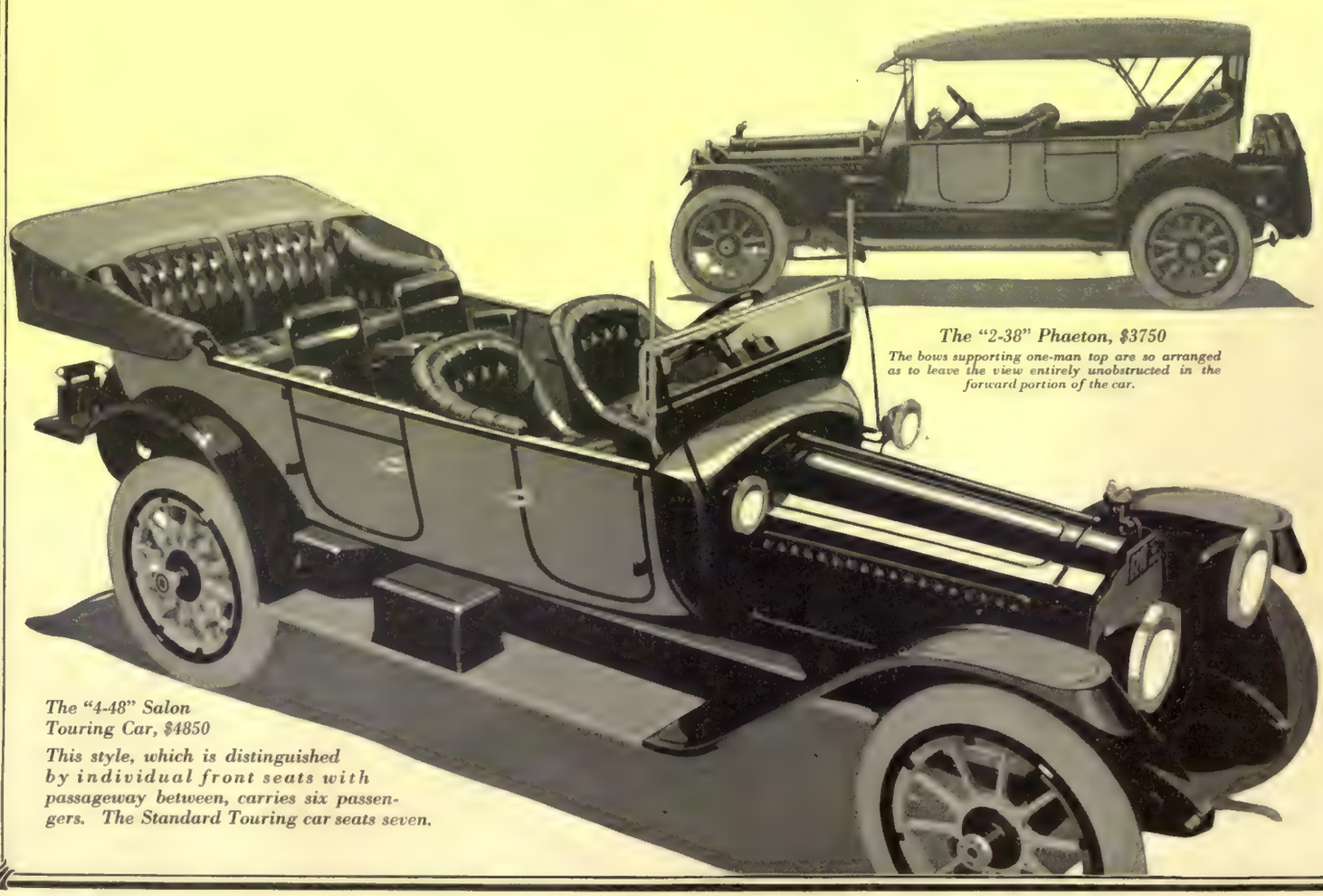
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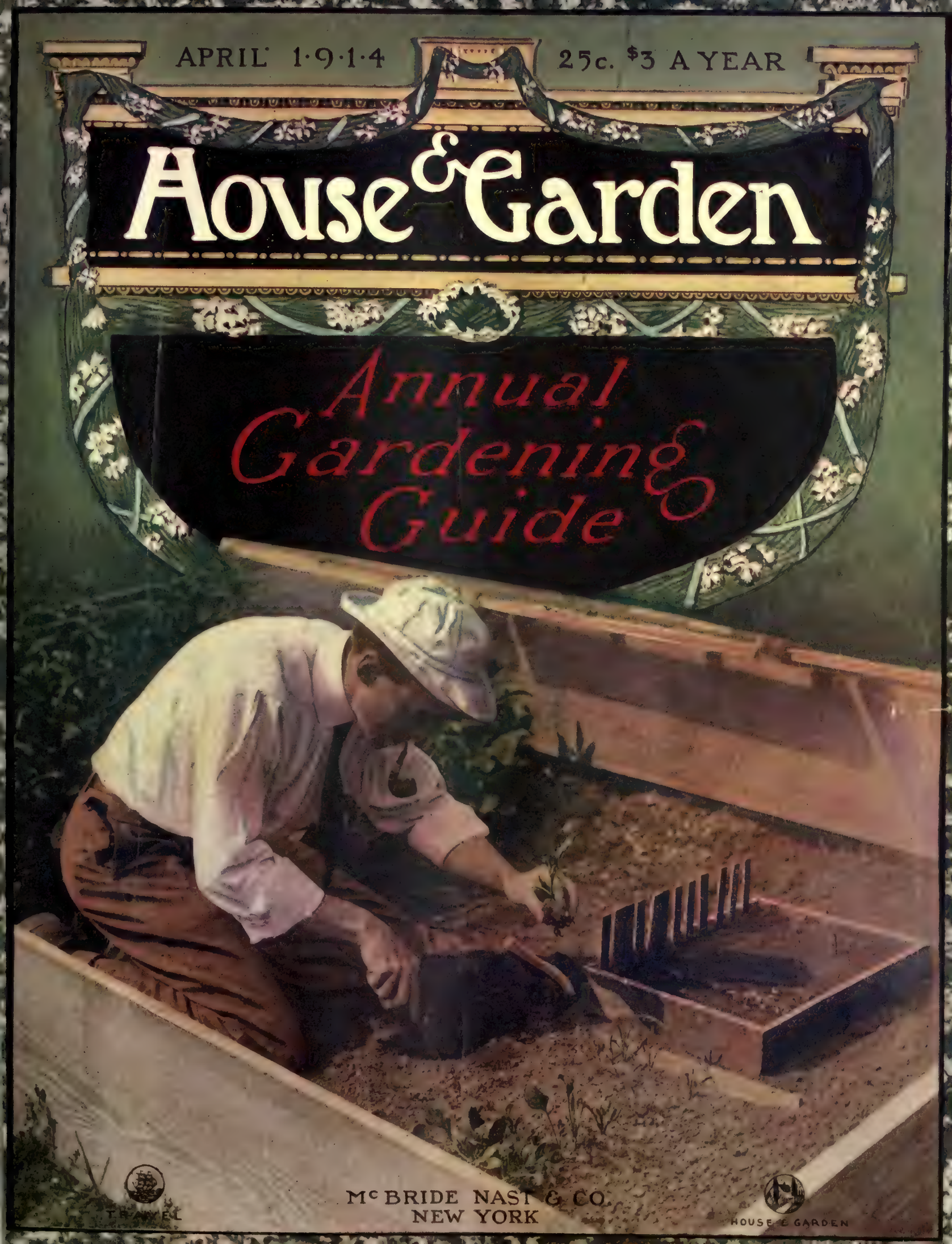
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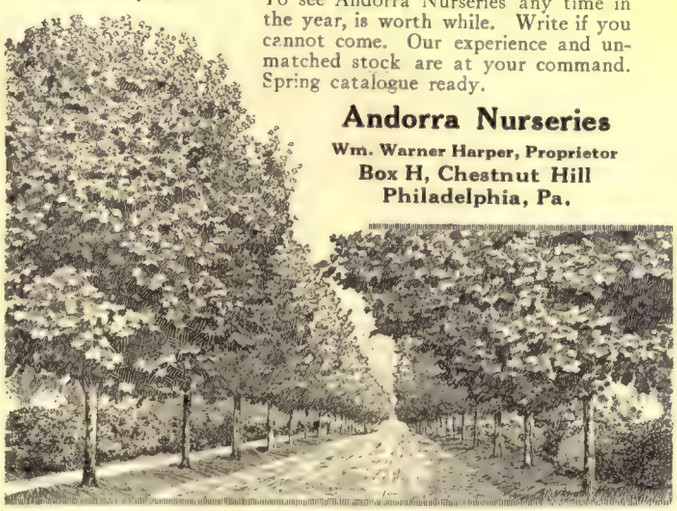
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THE HOUSE FURNISHER'S BULLETIN

New York is the market place of the world and into its shops, great and small, pour all the best products of the artisan, the decorator, and the furniture maker. All that goes toward making the home of good taste, may be purchased in this city. To give the readers advantage of the city's shops, the sharp eyes of experts are to be constantly employed in ferreting out for this column all that goes to make the house distinctive.

SOME attractive new pillow covers intended especially for summer homes, but quite suitable for all-the-year-round use, are made of a fabric similar to the familiar hand-woven coverlets or bedspreads, and show the same colorings and designs. They are, in fact, small pieces of the material woven in special sizes, so that there is no waste in making up the pillows, and their wearing qualities are quite equal to those of the larger pieces. Blues and browns seem to predominate, and in addition to the made-up pillows there are single pieces to be had. These have fringed ends, and may be used as table covers, or they are just the right size for pillow covers as well.

CHARMING sets for bedrooms in summer cottages are made entirely of willow, and the newest designs show a sort of basket weave in a fancy pattern that is decidedly prettier than anything yet shown in the way of summer furniture. The bureaus and chiffoniers in these sets have glass knobs on the drawers and sheets of glass for the tops, which are usually covered with cretonne in the gayest of patterns and colors.

WASHABLE pillows, however, are square for the most part and perfectly plain as to surface. Some of the most effective shown this season are of crash or linen in the natural shade, with conventional designs done in fast colors rather suggestive of good stencil work. The general scheme of coloring in these pillows is particularly good, and shows the effect of the cubist craze without being too extreme, and there are excellent combinations of reds, blues, greens and the darker shades that will stand the wear and tear of outdoor use.

SUMMER curtains are, if anything, prettier than ever this year, and the worthy scrim is appearing in all sorts of new forms. One of the daintiest is a rather fine-weave ecru scrim with a single solid stripe about six inches wide at the outer edge. On this stripe is a pretty floral design that forms a charming border for the curtain. A narrow, hemstitched fold serves as a border for some fine scrim on which a large pattern is printed, while a coarse scrim printed in delicate colors has a peculiarly lace-like appearance.



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Conducted by JULIA LESTER DILLON

The writer of this department will gladly answer inquiries from Southern readers in regard to their garden problems. Please enclose a self-addressed, stamped envelope if a prompt personal reply is desired.

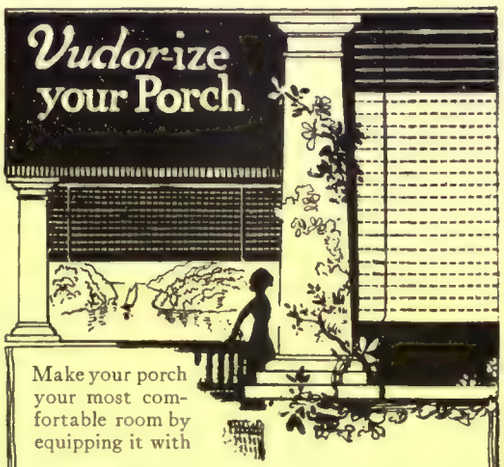
Azaleas and Camellias

WHETHER planted for the beauty of the individual specimen, for groups in the shrubbery border, for hedges or for plantations, there is nothing which gives more satisfaction, more beauty, more fragrance than the azaleas of all kinds. The earliest to bloom shows its color in January, and from then until May one after another of the species may be seen. The native, Azalea Indica, and the Chinese, Azalea amoena, are both desirable, hardy, evergreen shrubs; the latter being hardy in the Southern and Pacific States, and the former as far north as New York.

The azaleas are very particular as to soil. They prefer a rich, moist, well-drained earth containing leaf mold or wood's earth, as near like the swampy woodlands that form their native habitat as it is possible to get. For this reason, also, they ask for protection from the afternoon sun in summer and the cold, piercing winds of winter, and do best when planted against a background of trees or shrubbery, a garden or boundary wall, or where they are sheltered by the house. Many city homes face the north, and it is very hard to find plantings that will give satisfactory results under such conditions of shade and dampness as usually prevail here. In this situation, given the soil they need, the *Azalea Indicas* are ideal.

The beautiful colorings in these plants give one wide choice, and it is possible to have not only a succession of bloom in group plantings, but also to have a gorgeous color harmony that ranges in the warm side of the color scale from the deep tones of the glowing crimson, Le Flambeau, the rich rose of Comtesse de Beaufort, the pink, delicate and exquisite Mme. Van der Cruyssen, up to the purest white of the Deutsche Perle.

In the violet tones are Bernard Andre, which is dark violet-purple, very large and very double, and Theo. Reimers, a double lilac, which is most dainty and beautiful. A plantation of these two varieties lightened with the Deutsche Perle gives a poem of exquisite color harmony. Against a background of spring-blossoming shrubs in yellow tones or the deep greens of the evergreen plantings the effect is wonderfully fine and rather more unusual than the combinations generally



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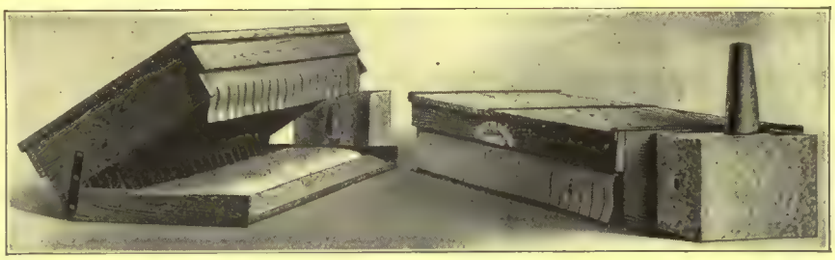






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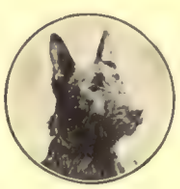
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seen of masses of pinks and reds with white. These, however, are justly the pride of our Southern gardens. Many of these shrubs, in their evergreen loveliness, have been growing for more than a century, and some of them have attained a height of from twenty to thirty feet. Hundreds of visitors go each year to see the magnificent specimens in Magnolia Gardens at Charleston, which are known far and wide for their great beauty. The gardens in New Orleans and Mobile, Augusta and Savannah, and other Southern cities, are filled with these fragrant and handsome plants. They must be seen to be appreciated.

The colors seen in the imported *A. gandavensis,* the Ghent Azaleas and the *A. mollis,* a native of China and Japan, which the florists offer each year, are very attractive and striking, but, while you enjoy these, invest also in those others which will grow outside and go from grace to grace and from glory to glory.

After the season of bloom is over, these pot-grown plants may also be put into the open ground, and will give fairly satisfactory results. To me, however, they do not appeal as do those which are indigenous.

Who does not remember tramping into the wildwoods as the earily spring days came on and the wild violets and dogwood called to the open meadows and the shadowy depths of the swamps? Can one ever forget the golden harvests of the yellow jasmine and the pink whorls of honey sweetness and the flaming torches that we called "swamp honeysuckle," but which we now know for the native azaleas: For the sake of "Auld Lang Syne," those halcyon days of childhood, let us plant them in our gardens and let the new generations revel in the beauty and drink in the fragrance of our old friends of the woodlands.

We will have the *Azalea vaseyi* (*Rhododendron vaseyi*), the Carolina azalea, a plant which is unique, but always beautiful, its blossoms a clear rose of several shades, and appearing before the leaves unfold. Much like this is the Azalea nudiflora, Pinkster flower, free-flowering shrubs growing from three to five feet, and also blossoming freely before a leaf bud shows. The *Azalea arborescens,* the most fragrant of all, is much like the Indicas, but is not evergreen. It is white, tinged with pink, with long style and exserted stamens of deep red. It is one of the easiest to grow and is a very desirable plant. The leaves are a deep, rich red in the autumn. Lastly, in this group is the Azalea viscosa, or small, white azalea, the smalest of the species, blossoming when very young and giving satisfaction wherever found.

An entirely different color rhythm is found in the flame-colored Azalea lutea (*A. calendulacea*), which is gorgeous for many weeks with its profuse clusters of

blossoms that range through all the shades of vivid red, orange and yellow. Under cultivation it grows from six to eight feet tall. Useful for grouping with this variety is the Apollo, Azalea Indica, which is an early semi-double of a clear vermilion. These plantings of orange-yellows and vermilions and scarlets lighten the shrubbery border almost as if they were flaming torches set to show spring the road to summer, so vivid and beautiful are they. Be careful not to put them near shrubs with pink or crimson tones. If they are kept separate and against the green background they are magnificent.

The last five of these shrubs are deciduous and are natives of the Allegheny Mountains, of the Georgia and Carolina swamps, and without exception have responded to cultivation and become worthy of prominent places in any garden.

The nurserymen advise the planting of all the azaleas at any time from October to April or May. If they are put out in the fall they must be protected during the first winter. Planted after the blooming season is over, in either March or April, in a partially shaded situation where they are sheltered from the heated summer suns, they will go through both the summer's heat and the winter's cold and come into full blossom the next spring. Now is the time to plant—plant just as many as you can afford—both of the evergreen and deciduous kinds—mass them, group them, tend them, water them, and next year, and every year thereafter enjoy them.

For the same reason that April is the best time to plant the azaleas, it is also the best time to plant the Camellia Japonicas, which attract so much attention in our Southern gardens and are unquestionably striking plants. The foliage is a rich, dark green and the flowers are handsome and showy. They also thrive best in fertile, porous soils and in partial shade. They must have protection from the winter's cold. They come into bud about Christmas time, and if the weather is propitious the red and pink and varicolored japonicas and the pearly-white camellias will be in full bloom by Valentine's Day. The cold seems not to injure the foliage, but the buds and blossoms are very tender, and are often killed in the midst of the blooming season.

There is one variety, a clear rose-color, not closely double, with many bright yellow stamens, that is not only beautiful, but has a delicate odor that is delightful and makes it, to me, the most attractive of the species. The florists do not name them, however; so one can only describe and hope to get the kind desired.

My Garden Book tells me that it is in April each year that all those annuals which do best planted in the open should be put out, including all the attractive varieties of Asters.







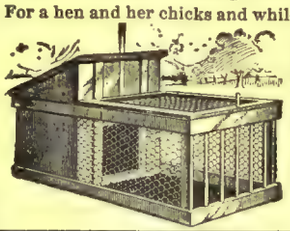
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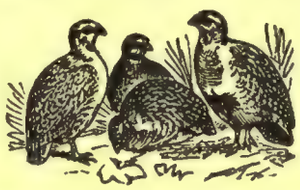
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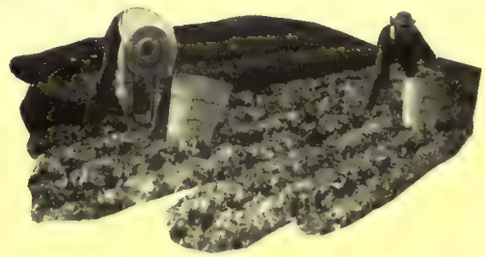
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WILLIAM A. VOLLMER,
Managing Editor

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The successful garden is a partnership of tree and shrub, evergreen, vine, lawn and blossom, all working together in a scheme that is fitting to the feeling of the house. Here is a garden view that seems to suggest such a partnership, simple but attractive and useful. The grass path, with its box border, lends considerable atmosphere here. It will be noticed at the same time that apple trees are included in the planting

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Putterin' 'round the Garden

BY WALTER PRICHARD EATON



"To do something which isn't in your 'line' is to enlarge your power over your environment—to flatter your ego"

A WRITER in the Atlantic Monthly, two or three years ago, said that "the art of puttering consists of doing for yourself, slowly and inefficiently, what you can pay someone else to do for you quickly and well." The only fault in this definition is the spelling. A true putterer always drops his "g," and generally, too, he adds a " 'round." You can no more putter successfully with a final "g" than with a high hat and polished boots. Your speech, like your clothes, must be old and easy. Otherwise the definition cannot be improved, and it shows putterin' to be one of the most paradoxical of pleasures, the most soul warming of self-abasements.

I will not enter into the vexed question whether putterin' is not distinctly a masculine art, whether a woman will ever do anything herself, unless economy forces her to, which she can hire done better—some cynics would say, which she can hire done at all. It is not necessary to raise that question with relation to putterin' 'round the garden, because true garden putterin' is not woman's work. It is too hard for her. She may plant bulbs with a dibble, or set out seedlings, to be sure, but she can do that as well as any professional—till her back gives out. No, true garden putterin' consists of harder labor, and woman's part in it must be advisory, at most. She can, perhaps, putter in place of the architect, planning the pool or designing the trellis or plotting the new beds, but it is the man who must cement and saw and dig.

I confess to being a confirmed putterer; nay, I boast of it. I have made myself, "slowly and inefficiently," a brick sun-dial, a brick bird bath, two hundred feet of trellis, a rose arch, an ornamental trellis screen (at least, *I* think it ornamental), several hotbed frames and numerous flower beds, large and small. Presumably I could have employed the time in the practice of my vocation, and earned enough money to have had them made by professionals, twice over. But I'm glad I didn't! I am prouder of that ornamental (honestly, it is!) trellis screen than of anything I ever wrote; and when, after days of back-breaking toil, I had excavated last spring a new perennial bed fifty feet long, in poor soil overrun with witch grass, had filled the bottom of my trench with manure carted in a wheelbarrow, had mixed my top soil with loam and fertilizer and put it once more in place, had sunk boards along the edges to keep the grass roots out, and built a trellis five feet high along the back, that fifty-foot strip of earth represented something far more precious to me than a potential flower border, which my gardener could have built in half the time at a nod from me.

It represented, first of all, personal, stubborn toil, and nothing so humbles a man as the face-to-face realization of the physical effort involved in successful agriculture. In the second place, it represented the triumph of my hands and muscles over a new obstacle. Any fool with money can have things done for him, and I sometimes think any fool can have money. The gift of "making" it is the lowest of human attributes. But to do some-

thing useful all yourself, something which you were not trained to do, which isn't your "line," is to enlarge your power over your environment, to give yourself a new sense of mastership, to flatter your ego. What credit is it to paint well, or write well, or run a railroad well, when that is what you were expensively educated to do? But when a painter can build a motor boat, or a college president can mend a clock, or a railroad president beat par on the golf links, that is something else, something wonderful, something to boast about. I would no more hire a man to make a trellis in my flower garden than I would employ the golf professional to play around the course for me, though the carpenter's trellis might be as much better than mine as the professional's score would be (*might*, I say; I don't admit it would be).



I have made by myself "slowly and inefficiently" a brick sundial which tells the time—and tells it beautifully

But, above all, that flower bed and that trellis behind it represent happiness—happiness past and yet to be. They represent long spring afternoons when the April sun beat pleasantly down on the back of my neck and on my arms, bared for the first time after the winter. They represent delicious moments when I paused and stood upright to straighten out the kinks in my spine, while from the nearby evergreen hedge, from the topmost spike of a young Norway spruce, a song-sparrow poured forth his ecstatic song. They represent hours of dream-lightened toil, when each barrow-load of manure, trundled with straining shoulder-sockets half the length of the garden, seemed to hold a nine-foot hollyhock, a giant larkspur, a forest of foxgloves and Canterbury bells, a pink glory of *anemone japonica*, in its wormy disgustingness. When the bed was filled and smoothed, when the trellis was built and painted, when the grass in front was raked clean, top-dressed and reseeded, then I stood before the work of my putterin' hands, a long hour between work-time and dusk, watching my cardinal climbers cover the trellis, my foxglove swing their fairy bells, my hollyhocks sway in the August breeze. Such an hour of ecstasy in the presence of bare soil only the putterer can know!



My wife maintains that she built and painted half this trellis, but when the grass was raked and seeded, I folded my "putterin'" hands and let the cardinal climbers finish the job

Mrs. Margaret Deland has somewhere spoken of "the grim inhibitions of wealth" which prevent certain garden owners from themselves working in their flower beds. I fancy we all know such people—poor cowards, slaves to their caste, who fear alike their neighbors' and their own servants, and who have lost completely the faculty of self-support, with the joy the exercise of that faculty brings. I know a man—he calls himself a "gentleman farmer"—who thinks he putters 'round his place. He puts a long, excellent cigar in his mouth, whistles to his West-Highland terrier, buttons the belt of his Norfolk jacket, and walks out over extensive lawns cropped by a power mower to his formal garden, where numerous gardeners are perpetually engaged in digging out one kind of plant and setting in another, which is supposed to be succession. You and I know that succession consists of so filling a bed with permanent inhabitants that one may have steady bloom. Anybody can achieve succession with a dozen gardeners, a huge seed bed off somewhere out of sight, a hothouse and an income of $100,000 a year. Once our friend has reached his garden, he pokes holes with his cane here and there to indicate where he thinks certain plants should be set. Catching his cap on a thorn as he goes under a rose trellis, he whips out a knife and prunes off the offending shoot. At the pool he picks up a stone from the graveled path, which has hurt his thinly clad feet, and carries it into the bushes to drop it. Thus, laboriously, he makes the rounds of his estate, and tells his friends at luncheon that he has been puttering (with a final "g").

Rubbish! He doesn't know what the word means. He is not a gardener. He doesn't deserve a garden. He never will till he gets into old clothes and demonstrates his utter inefficiency by building a bed with his own hands, or at the very least edging a walk, and then feeling vastly more proud of it than of all the rest of his estate put together.

I have often thought that one of the reasons why "Robinson Crusoe" is immortal, and why every book about men wrecked on desert islands appeals to us, is because we ultra-civilized folk deep in our hearts realize our incompetence to master our environment single-handed, and we bow in admiration to the man who can. The Admirable Crichton, in Barrie's delightful play, was a butler in England, but on the desert island he was "King."

Of course, the very first requirement of a man face to face with



When the iris are in bloom, when the water lilies smile, when the fish are swimming in the pool—visitors will admire my garden, but I shall go putterin' away at other tasks

Nature is the ability to house, clothe and feed himself. In our Twentieth Century civilization nobody wishes to make himself ridiculous by wearing clothes of his own manufacture, but he is not made ridiculous by practice in agriculture and carpentry. That is the reason why most men, when they putter, do so with a saw or a spade. That is why a garden is the ideal spot for putterin'. If you can build a hotbed frame and a trellis and a rose arch, and perhaps a summer house; if you can spade up the soil and grow flowers and corn and celery and cauliflowers—obviously you would not be wholly helpless on Crusoe's island. No man likes to feel that he would be helpless on Crusoe's island; no man likes to feel that, however skilful he may be in some super-profession of civilization, he has no command over the primitive arts on which civilization was based back before the dawn of history, and upon which, for that matter, it rests to-day. So, whether he realizes it or not, it is really pride which makes a man putter 'round his garden, or build a book-shelf in his carpenter shop in a corner of the barn. If a man does not feel the urge of such a pride, naturally he doesn't putter—and upon close acquaintance you will generally discover that he lacks certain qualities of healthy virility. It used to be the fashion to hold up the Yankee jack-of-all-trades to contempt. He was not contemptible. He was merely enamored of his power over his environment—and he was extremely handy 'round the house! In these *effete* days, when we even hire a specialist for so simple an operation as screwing on our double windows, he seems almost a demi-god. And the greatness of New England vanished with his passing.

It is once more spring in my garden. I have a new hotbed to build, which will be a movable framework set on a cement-sided pit. The chestnut lumber and the bags of cement even now stand out behind the tool house. My wife's aunt gave me a new saw for Christmas (under protest, as it seemed to her a most unæsthetic present, and my delight was incomprehensible), and I am eager to be at the work. The floor of my summer house, where I write in warm weather, dashing out to pull weeds between paragraphs, needs repairing. The stumps of a Japanese willow hedge cut down last autumn must be grubbed up before they sprout—a task of heroic proportions, for no tree on earth has such tenacious roots, such hungry, soil-sucking roots, as the Japanese willow. I shall do all these things myself, and many more besides. When

(*Continued on page* 325)



My putterin's—what delicious moments they represent—when the April sun beats down pleasantly upon my neck—when I pause to straighten out the kinks in my back!

The Special Uses of Garden Plants

AN INDICATION OF THE AVAILABLE FLOWERS AND SHRUBS MOST SUCCESSFUL IN THE GARDEN—HOW TO SELECT THEM, AND CONSIDERATIONS OF THEIR PLANTING AND THEIR CULTURE

FROM the point of view of the amateur, the materials for a garden are shrubs, perennials, annuals and bulbs. What their particular value in the garden scheme may be, can be only indicated in brief space, but some suggestion of the uses of our garden plants and their differences is fitting here.

The ordinary country place will have some space devoted to lawn, driveway and entrance. Grouped along these various boundaries come the shrubs placed irregularly. There are other portions of the garden where straight lines are suggested by path or driveways, and here are the long borders of annuals and perennials. Then there is the flower garden proper; there will be groups of beds here showing some formal arrangement. The long borders at the side, probably protected by hedges, will be the places for perennials, and perennials will form the nucleus of the bed plantings. Rounding out their full beauty, filling in the gaps left between times of blossoming come the annuals. Let us see now how we may make use of these planting materials to round out the scheme of our garden.

Perennials are those garden plants of herbaceous nature which endure season after season, coming into bloom after the winter wilt and decay. Their root systems persevere in semi-dormant condition, and with spring gain new vigor and start new growth. This quality of permanence is their special virtue.



The perennial garden once planted is little disturbed, but space enough must be provided for the increasing development of the plants year by year

As the perennial garden succeeds season after season, so it gives the attraction of successive glory in the year. With perennials there is opportunity for continuous bloom, flower following flower for nine months. This automatic change, if the selection is carefully made, affords four different displays a year from a single bed. The beginner should be content on one or two changes at first; the more ambitious effects come later, when experience has taught the peculiarities of each sort in his garden. Difference of soil, difference of location affect your plants, and it is only through experience that you can know just how each plant will act for you.

The perennial garden is often called the hardy garden, for among the innumerable varieties found in this class of plants are most of the sorts capable of enduring all sorts of inclemencies of weather. Frost, the greatest garden blight, shows less effect on the hardy perennials than other plants, and, with any sort of care, they are much more able to resist drought than annuals. There is a wonderful diversity of form and habit of growth and a variety in color and shape of blossom that defies classification. From this generous group can be selected plants of greatest beauty and hardihood which are not particularly fastidious of soil conditions, and which need but little special care and attention. These plants, once started, grow and increase so that from the first specimen a great stock may be obtained. The initial investment, therefore, in seeds, as plants, should be spent upon the very best. Even then, perennials will be found the cheapest source of garden supply.

In laying out a garden of any sort there are four cardinal principles governing the selection of plants: The season of bloom, the color of the flowers, the height of plants when grown, and the location most suited for their flourishing. You must know these facts about every plant that goes into your garden, else you will have ugly color contrasts, a jumble of little and big specimens, some spaces bare most of the year, and others crowded with tall varieties entirely concealing their dwarf neighbors.

With these things in mind it is best to go about making a garden plan. The cross-ruled paper purchasable at any stationer's will assist you in making a plan to exact scale that shows at a glance the available space and the relation of beds and borders. All permanent physical features should be included, such as trees, shrubs, ornaments, unmovable rocks, boundaries, etc. The differences of location can be indicated on the plan by shading solid in pencil those portions of the garden well in the shade and slightly shading the spots having but partial shadow.

If the garden is to be made anew, see that no bed is wider than six feet or narrower than two and a half. A bed may be twelve feet wide, if it can be reached from both sides, as this restriction in width is governed by the difficulty in giving attention to any space greater than six feet. Less than two or two and a half feet for a border restricts it to too few plants, or to but a single row of most varieties. Such a planting is too stiff.

Hints for the careful selection of flowers for their color are given elsewhere in this issue, and it is only necessary here to advise the attempting of simple color harmonies, or one-color schemes.

The matter of season of bloom is important. In your garden it is desirable to have as many beautiful flowers as possible, and to have them all the time. Some bloom in spring; others summer; still others not till fall. A bed may then be arranged to take advantage of this, and with perennials it is easily possible, as most sorts die down after flowering, and leave their successors to spring into full glory after them. You must pick out plants that accomplish this. The periods of bloom will overlap and leave no part of the border destitute.

Then there is the matter of height. In general, it is best to plant tall-growing sorts at the back of the border against the fence or hedge. If in a bed that may be seen from two or more sides, tall species should go in the center. That is only common sense; you do not want the little plants to be hidden. The creeping plants and those of dwarf growth, for the same reason, are put along borders. These statements do not mean that all tall sorts should be placed in rows, like so many soldiers, backing the border. The gardener will use them for their place in the form part of the composition, probably between two groups of low-growing plants, to give the bed a wavy, irregular line and to accent it in places.

Location with perennials is not so very important, but the soil demands of some must be considered. There are, too, some flowers that do well in the damp, shaded places, and others that demand much sun. These peculiarities are factors determining where they shall go in your garden.

You have now working data of the main requirements of perennials; you have your plan showing your garden restrictions; you are now ready to make up your mind as to what plants you want. Your plans for color groupings come first, but keep them simple. The elaborate scheme requires experience and knowledge. It is often helpful to sketch in crayon or water color your main color scheme on the plan, making the colors cover the sections you desire to have—red or blue or yellow.

Last issue, the matter of proper fertilization and drainage was elaborated in the Garden Department, and in the article on spring work the matters of sowing and planting explained. If you realize that all your hopes will be frustrated by improper soil conditions you will see to it that the garden earth is friable, well drained, free from acid and well supplied with available plant food.

These same considerations of height, color, location and time of blossom naturally apply to those flowers classed as annuals. Such plants are those which flower from seed the season of planting, and then die down after blossoming or at the approach of winter. Seeds must be planted each year, with the exception of certain varieties that self sow. These will come up in a scattering growth next year. The greatest value of annuals is to supplement a perennial planting. The spaces between the newly set out plants will look bare the first year, and annuals round out this irregularity



Annuals fill in the gaps between perennials and give first-year brightness to the border. *Phlox Drummondi*, the annual phlox, appears in the foreground



The low-growing *Phlox subulata* appears with the tulips. When the early bloom of these plants is past poppies keep up the succession of bloom



Shrubs are the garden fixtures and afford a striking display of blossoms with very little attention. The long, drooping chains of flowers are the white masses of the Van Houtte's Spiræa, a most satisfactory shrub for garden massing

and fill up the bare spots; then, too, their rapid development gives beauty to the country place occupied only for a season. They are really emergency plants; the advance guard of the garden. Their treatment is somewhat different from perennials, although generally the soil requirements are about the same, except for depth of cultivation. You do not need to consider season of bloom so closely, as this can be arranged by the time of planting. Annuals set out even as late as June will give blossom the first year. A great many of them are planted where they are to grow, and a seed bed is dispensed with. Some, however—cosmos and salvia—are better started under glass. Enough hardy annuals may be selected for sowing outdoors, thinning to easy growing spaces as they develop. Some of the more delicate sorts, salpiglossis and schizanthus, are also better started in flats in the house, but the majority, if sown thinly in finely prepared soil outdoors, protected from heavy rain, and cut back when they begin to get spindly, will give satisfactory results.

There are some other plants not classed as annual or perennial which should be set out in the spring. These are several of the bulbs. They should be planted from April to June, and the tubers or bulbs taken in after flowering and wintered in some frost-proof place in the cellar. The dahlia is spoken of in a separate article in this issue and its wonderful improvements hinted at. Besides this, another flower well worth planting is the gladiolus. Its enthusiasts have so improved it, that its large, orchid-like flowers may be had in the most wonderful shades and colors. Where it used to be stiff it is now delicate and especially good for cutting. Cannas, if planted where strong effects are needed, and above all, not as a bedding plant, are desirable. Some of the lilies may be set out in the spring—the ixias, African corn lily and montbretias, with their broad range of color, from vermilion to all the yellow and orange shades. There is a white summer flowering hyacinth of large size, suitable for combining with gladiolus. It grows about three feet in height, and its name is *Hyacinthus candicans*. Add to these some of the summer lilies, the delicate zephyranthes, the fall-blooming saffron crocus (*sativus*) and the cholchicums and your list of common spring-sown bulbs is complete.

What has been said about perennials applies specifically to the shrubs. They are also perennial plants, but of weedy growth, and distinguished by stems or trunks with bark. The beginner would do best to confine himself to a few shrubs. A dozen may be given that will afford nearly enough field of selection for all purposes. The rare specimens and extraordinary sorts should come in the graduating stage of gardening.

The special function of shrubs is to grade between trees and low-growing plants or to act as a graduation from lawn to tree. Shrubbery massings are best freely planted in irregular groups, as they are found in nature. The deciduous shrubs do not adapt themselves to irregularity, and should never be ranged around defined paths or driveways following their exact direction. They frame a lawn, screen an unpleasant view or act as a boundary. In another part of this issue their use for boundaries and hedges is discussed, as is their planting. Shrubs round out the garden scheme well, because of their variation in height and their greater growth than flowers. And the difference of their height must be taken in consideration in planting, as is to be done with other flowers. So also have shrubs a range of bloom, and you must try for this principle of succession to get flowers during much of the

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Hedges for Every Garden



California Privet

THE IDEAL OF BEAUTY AND UTILITY—HOW TO PLANT AND KEEP A HEDGE—SOME DESIRABLE VARIETIES AND THEIR SPECIFIC USES

BY GRACE TABOR

HEDGES are, of all boundary marks, the easiest to acquire and the least expensive; hence they afford us the readiest means to-day of altering our open-to-the-world-generally condition to that ideal of home enclosure that is slowly but surely beginning to prevail. And they afford us, too, a means for this transition that shall make it seem less radical than would the erection of walls and fences—for a hedge comes modestly and insinuatingly upon the scene, barely a line breaking the level of monotony at first, and growing very gradually from this to a thing of form and positive characteristics.

We scarcely realize even the least of the hedge's possibilities here in America, however, for we are not advanced further than the very doubtful low barrier of privet—after all not wholly effective, handled our way, as a barrier; and very often of very little merit as a decoration, thanks to that same way of handling. Of the possibilities of native shrubs—notably the bramble and honey locust—in the construction of actually impenetrable boundary marks, we have no conception; nor have we profited by the example of some of our early-settler ancestors, and planted "quick" or the living barrier of English hawthorn.



Hydrangea paniculata has form as well as profuse bloom. The floral hedge, of course, requires no cutting. It is most effective as a boundary within the garden proper

Almost anything at all may make a hedge, for, of course, the term means simply that the plants are set in a line. But there is one characteristic essential to a good hedge plant, whether it is to be sheared or allowed to grow in natural fashion; this is density at the ground. The one great difficulty to be overcome in all hedges, whether sheared or natural, is the open base. No hedge that shows it is to be regarded as a success, although, of course, any unsheared shrubbery growth is bound to have a tendency towards it. For this reason, varieties that sprout freely from the roots by nature, throwing up a mass of shoots rather than one or two or three stems, are to be chosen for hedge planting. And plants of small size that may be thickly set are a wiser selection than those of greater maturity, whose root and branch growth has reached proportions that make close setting in the row impossible.

For the defensive outlining of a property, a thorny hedge has advantages which make its choice usual in lands where hedges prevail. But nothing in America as yet represents, either practically or sentimentally, what the hawthorn represents to the English; yet we have here a plant well qualified to take its place, save that it lacks in showiness somewhat, its blossoms being rather inconspicuous. This is the honey locust, or tri-thorned acacia, native over a large portion of the United States and adapted to all portions. It is a tree, of course—so is the English haw—but, planted in its infancy at a height



Of the evergreen hedges, hemlock spruce is the first choice. It lends itself to precise lines and its feathery grace has no rival either in summer or winter

not exceeding two feet, when the plants should be set eight inches apart, it makes, with its delicate, airy foliage, one of the most beautiful of hedges and sweet when in blossom. Its cost at this age and size of plants is so trifling, too, that only lack of knowledge concerning it, I am sure, prevents its being used more extensively than any other species; for, from a cent and a half to two cents a plant, is surely the very minimum price one may expect to pay for anything. Nothing that I know of for the garden is any cheaper than this, save possibly seeds in their packets!

Another thorny plant used to a considerable degree before wire fencing came into such general farm popularity is the buckthorn—not a native, though now growing wild to a limited degree through "escapes" from cultivated plantings. This should be planted in the same way as the honey locust, and at the same size.

The native black-cap, whose branches take root at their tips as soon as these touch the ground, is almost, if not quite, unheard of as a hedge planting nowadays; yet some of the earliest defensive hedges planted on this continent were of it. The plants were set six inches apart in the old time, and the overarching branches allowed to widen the hedge out by tip rooting, until it was as wide as desired. After this these branches were "whipped off" in August annually, to prevent further spreading. A better way, now that land is less available for wide hedges, is to direct the tip rooting by a little training, crossing the branches as they grow and confining all those allowed to take root to the plane of the hedge's direction. The others should be cut away completely. This results in a more definite surface, although, of course, by its very nature such a hedge is a tangled mass, with new growth interwoven around old dead canes until neither can be extricated from the other. This is exactly what is wanted; and as a protective hedge and a protective cover for birds it is unequaled. It is therefore a barrier of twofold value to the fruit or truck garden.

The English hawthorn is not advisable here, being subject to a fungous disease which only constant spraying would keep in check; whereas constant spraying is hardly practicable, nor, indeed, worth while, when wiser planting will make it unnecessary.

Hedges of this large type and scale are hardly suited to the limits of a small place, however, and are consequently not advised where land space is restricted. On an acre of ground they do not, perhaps, encroach too much, but on anything less I feel that a less arboreal species than the honey locust or buckthorn, and a less aggressive species than the blackcap, serves better. This is not altogether because of the ground space occupied, but partly because a large, broad hedge is generally out of scale with a division of land into units smaller than the acre. Outlying circumstances must be considered, however, as well as the place itself, in deciding on any planting that affects in appearance, or is affected by these general outside conditions.



If one wants an uncropped evergreen hedge, *arborvitae* will grow up erect and trim of its own accord and, with its density and strength, it makes an admirable protective boundary

No hedge in the world is more beautiful than one of beech, although the hornbeam is similar enough, perhaps, to have very strong claims. Both of these are trees also, but, as they lend themselves to very even, close shearing, they are not quite so impossible in restricted areas as the ones just mentioned. They should go into the ground fifteen inches apart when planted as a hedge, and plants two feet in height are the maximum that should be chosen for this sort of thing.

One of the most interesting living barriers that I have ever seen I once found surrounding a tiny farm that was brought to its state of high productiveness by a humble immigrant, some time since

gathered to his fathers. Almost reclaimed from the marshes is the land, yet not actually on the marsh is it, either; for in front the roadway is hard and firm, and a spring-fed well just within the gates yields most delicious, fresh, sweet water, icy cold in midsummer. Set into the ground perhaps a decade ago, at intervals of six or eight feet, were willow twigs. These were the hedge or fence foundations, grown to goodly trees in short order, and pollarded when five or six feet high, at which time they were ready to receive the rails that are nailed from each to each in three tiers. The lower line is about six inches from the ground; the second is two feet; the third four feet or a little more. When these were ready, the long willow shoots were cut and woven vertically behind the lower and upper and before the middle of these three rows of rails, as close together as they could be laid. And an absolutely impenetrable barrier is the result, because the shoots touch the ground at the bottom, and some, indeed, are thrust in, while others have taken root and thus thrust themselves in! So that all along this curious hedge, green and living willow tops are waving here and there, in a naive confusion that exactly suits the quaint little place.

While nonchalance carried to this extreme is hardly desirable in our average gardens, the idea of a woven hedge with living posts is adaptable to many places and well worth working out, particularly where the surroundings are actually sylvan or rural—not imitation.

Of flowering shrubs available, there are barberries, lilacs, Rose of Sharon, Japanese quince, certain of the spireas, a hydrangea, the Japanese wild rose—(*rosa rugosa*)—a viburnum, some of the cornels, deutzias, weigelas and privet in all of its varieties—though this is almost invariably chosen for a sheared hedge. Of this list, the barberry and privet may be trimmed to the most precise form, the Japanese barberry in particular lending itself to as severe cutting and as definite lines as the California or the Amoor privet. Indeed, this particular variety is frequently substituted for boxwood edging in sections where the latter will not endure the winters; and a very satisfactory substitute it makes, providing very small plants are used and set close—six inches being a better distance between than more. The larger plants and greater distance will leave gaps at the ground when sheared, in spite of all the after care in the world. It is only when plants small enough to mingle their branches right at the ground, as these first start to grow, are used that an unbroken and truly boxlike edging can be developed.

But, of course, flowering shrubs will not flower to any really satisfactory degree when restricted with the shears and cut into unnatural shape. So, with all of these species and varieties it is assumed that no shearing will be done. For the trim, close-cropped, high-growing hedge it is much better to plant the commonly used privet or an evergreen of some kind, using the floral hedge only in such positions as its natural characteristics demand and will adorn.



For utility and form nothing can equal a sturdy boxwood hedge. It is a rapid grower and after the first winter requires only passing attention

As to just what these positions are it is difficult to say definitely. Generally speaking, the floral hedge is more suitable to the subdivisions within grounds than to the outer boundaries of a place; but, as such a hedge takes up a considerable space, it is not, of course, practicable on small places. As a screen planting it may be used to advantage sometimes, however, in smaller places than would seem naturally to invite it; but on the whole it is pretty safe to limit it also to the acre of land which we have set as necessary for the loose and rank-growing brambles and the arboreal

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Barberry is one of the best-flowering shrubs available for hedge planting. In trimming, care must be exercised not to destroy the buds. By planting closely at the start the shrubs will grow up without gaps



The garden is laid out on two levels, and from a bit of woodland a path leads to the garden laid out in formal arrangement. This is surrounded by a hedge at either end and has a wall at either side

Chapters from a Gardener's Experiences

WHAT ONE AMATEUR LEARNED ABOUT MAKING A BORDER THAT LASTED THROUGH THE SEASON—PLANTING FOR COLOR AND FORM EFFECTS

BY CORNELIA L. CLARKSON

Photographs by the Author

LIKE all beginners, I read many garden books and learned the names of flowers and the time of bloom; but what their diseases, insect enemies and individual peculiarities were I learnt from experience. Now, when I see a successful garden, I know what obstacles have been overcome and what a triumph it represents.

My garden is very near the house, so it can be seen and enjoyed at all hours; and on rainy days I can watch the plants satisfy their thirst, and know that the ground will be soft and delightful for me to work in when the sun shines.

The garden is laid out on two levels, and is approached from a terrace, at each end of which steps lead to the first level. Here are the hardy borders, a hidden fountain and a path leading to a wild garden. A few steps descend from this level to the formal garden, which is surrounded by hedges and walls.

The charm of a garden is greatly added to when the whole cannot be seen at once; surprises for the eyes—a spot of color behind hedge or wall, the unexpected—keep the interest awake and quicken the steps to the hidden blossoms.

In my hardy border I have tried my experiments and I have seen them succeed or fail! I watch it for six months, and every spring brings the same thrill of excitement at the first look. What shall I find killed and what alive? Day by day that question is answered.

The border is 11 feet x 68 feet, and has a southern exposure; the stone wall on the north side is 5 feet high and is covered with vines, the Wichuriana rose, with its buds tipped with pink, its white single blooms in clusters, and its pretty, dark, shiny, green leaves, makes an effective wall covering all summer honey suckle and clematis, with their delicious odor, also help to cover this wall.

At first I put all my large plants at the back, shorter ones in the middle and the smallest in front; the result can be imagined. I began to realize the importance of form and proportion. After many transplantings a better effect was obtained. Most gardens depend entirely on color, and when photographed look uninteresting. A well designed and planted garden should make a beautiful picture.

To have a hardy border that is always gay with colors which blend and never clash is a difficult task, but most fascinating. Mistakes only suggest new ideas and add to the longing for "next year."

Another hard task is correct staking. To hide the stakes and yet give the plant a natural appearance takes long experience. Even Miss Jekyll admits that dahlia stakes must show before the plant grows, but her suggestions for general staking are most helpful.



By the path leading to the formal garden is a hidden fountain where ferns and rock plants grow

The first flowers to bloom in my border are tulips and pansies. When the tulips are brown and can be cut off, the pansies are pulled up and annuals planted in their places. A long row of yellow primroses (*Polyanthus*) is soon in bloom, and the dainty bleeding heart (*Dielytra spectabilis*) follows. This plant has a beautiful foliage, but by July turns brown and has to be cut down, so I plant mallows with it, and they fill the space with their effective blossoms in September. By the end of May the border is full of color, with plenty of white flowers, which I like better every year. White lupins, fraxinella (*Dictamnus alba*) and *astilbe japonica* flower with the pink and white pyrethrums and lavender and yellow German iris. These are succeeded by Oriental poppies—the deep scarlet *Pekennanii*, not the orange—forget-me-nots (*Myosotis palustris*), quantities of small purple English iris and great clumps of purple and white colum-



From the hardy border steps lead into the formal garden. The approach is made attractive by large foliage plants



The main hardy border is shaded at one end, and here such plants as foxgloves and Canterbury bells lend their color for most of the season

bine (*aquilegia*); the short-spurred variety make large plants and do not die out, like the long-spurred. White foxgloves (*digitalis*), with purple and white Canterbury bells, come next, and then the colors change to blue, yellow and white, with the gorgeous delphiniums, Dropmore anchusa, veronicas (*longifolia* and *longifolia subsessilis*), Candidum lilies, the early white phlox, Miss Lingard, the pearl achillea and the pale, lemon-yellow calendulas and anthemis.

Annuals—stock, snapdragons (*antirrhinum*), phlox Drummondi, arctotis and asters—are planted in the place of the bulbs and Canterbury bells, and these flower until frost.

July brings the wonderful phloxes—the salmon pink Elizabeth Campbell being one of the best—and the white *platycodous;* and in a shady corner, red monardo, with ferns and meadow rue, does well. In late August the phyostegia and *Boltonia asteroides* bloom; the latter may be kept down to four feet by pinching off the tops several times during the summer. In September the dahlias, *pyrethrum uliginosum*, *artemisia pactiflora, actia japonica* and blue salvia (*azurea grandiflora*) keep the border gay. October adds the lovely white anemones (*japonica,* whirlwind) and chrysanthemums, and the border is full until Jack Frost turns it black and puts it to sleep for the winter.



Realizing the importance of proportion, we departed from the old order of large plants in back, short ones in front

The charm of gardening lies in "finding out for oneself." The Perfect Gardener, if there is one, will seek to express himself not by the reading or making of books, but in living, growing trees and flowers. All this the amateur realizes ever more fully as he watches the border wake from sleep to life, live intensely for a while—and then to sleep again!



The interest of a garden is increased when it commands a view. This one is so laid out that the landscape lying below it, where the river stretches, may be fully appreciated

Renovating Old Lawns and Making New Ones

DEFINITE ADVICE FOR ACQUIRING AND MAINTAINING A SMOOTH GREEN SWARD—DETAILS OF SOWING SEED, ROLLING AND WATERING

Curing Bad Lawns

WHEN your grass plot begins to show signs of raggedness and the weeds become hopelessly persistent and unduly vigorous; when the ground is hard and patches of moss creep in, it is a warning that the soil is out of condition and that it should be restored before it is too late. There are many ways to do the work, all depending on the existing conditions at the time. For large areas, the plough,—and deep ploughing is the solution,—with the addition of plenty of manure and allowing the land so treated to lie fallow during the winter. In the spring it is to be harrowed and cross-harrowed, then smoothed off and seeded. This, in short, is the story for a large place.

But for small areas such as we find about the average home, a general overhauling and much disturbance is not popular, and frequently the unwillingness to submit to it prevents the needed work being done.

A way to make the proposition attractive must be found that will get results with the minimum of inconvenience.

The purpose is to get into the soil enough fresh loam, with fertilizers, to overcome the condition that is causing the trouble, and it can be done in this way:

Pick out the worst spots, and from these remove all the weeds, going deep enough to insure effective work. Afterwards take a heavy crowbar or a piece of "two by two" timber pointed at the end, and drive it into the ground to a depth of ten inches, with the holes one foot apart and well opened up. Next, fill these holes with the new material. It should be the best loam that can be had, with which has been mixed a liberal amount of manure that has been reduced to an almost powdery fineness. Sheep manure is ideal for this, as it is not only effective, but it can be purchased in powdered form and bagged in amounts to suit. Ram the loam hard into the holes flush with the top. Get a few weedless sods, and cut them into pieces to fit the holes. Pound the pieces of sod into each hole, soak with water, and go on to the next spot.



A small piece of sod should be rammed into each hole



Ram the crowbar down hard and open each hole well



Add new soil in the holes and pound in pieces of weedless sod

These pieces of sods will quickly take root, and it will be but a very short time before an improvement will be noticed. When all the very bad places have been renovated in this way, procure a half-inch spike, and go over the rest of the place by driving this spike into the ground to a depth of ten inches. This is done to allow water to get through the hardened soil.

The work of renovation should be spread over a couple of periods, doing half in the Spring and finishing in the Fall. Later still the ground that has not been given the new loam should be attended to. The results will be just as satisfactory as if the entire place had been dug, and without any inconvenience.

Should the spike alone be used, a betterment will be quickly noticed, but, of course, the results will not be as lasting as if the manure and loam had been used.

Where patching by seeding is preferred, it must be remembered that the mere scratching of the hard ground will not make a place where grass will grow, and it is very probable that the first few hot days will shrivel it up. Before putting in the seed loosen up the earth at least four inches, afterwards breaking it down very fine. Sow the seed, and, after rolling or leveling with the back of the spade, water lightly, but regularly. This sort of repair work gives a spotty effect, with slow recovery, but satisfactory in time.

In patching with sods, as with seeding, loosen the soil deeply and hammer the sod into place with the back of the spade or a rammer.



Select the bad spots first and use a half-inch spike to loosen up the earth

It is very important that this pounding of the sod should be done with vigor, as it serves to work it into place, making a firm contact with the loam beneath.

After all the repair work, a great help to success is a frequent rolling, or, if a roller is not handy, a pounding with a spade or a mallet made out of heavy timber. It improves the mechanical condition of the soil greatly.

These suggestions, closely followed, have been most effective many times in my own experience. As was said in the beginning, however, the above method will appeal more strongly to those who have small, shabby grass plots which would never be touched unless a minimum of labor and expense was assured.

L. J. D.

Sowing the Seed

HAVE you ever read instructions in garden books on how to sow grass seed, and have you noticed how these almost invariably include two main points, viz.: to sow when the wind is not blowing and just before a rain? It is not always possible to wait for a quiet day, neither are we all good forecasters of weather. It is often necessary to make arrangements for seeding a day or two ahead, and to stand about waiting for the psychological moment is rarely practicable.

The following experience is a case in point. It was late in September and full time the seed should be sown. The work was being done by contract, and the men could not be held indefinitely; also rain had been threatening, and it was very necessary to take advantage of any possible shower, as there was no artificial means at hand for sprinkling.

The ground having been prepared, a batch of top soil was screened and placed in readiness the day before the seeding was to be done. The day turned out to be windy, with rain threatening. To insure even seeding and rapid work, the lawn space was divided into 6-foot widths; these were staked, and the first five lined off with a ball of white carpenter's twine. While one man brought the soil two others mixed the seed with it in the proportion of one pail of seed to a wheelbarrow of soil. The sower took a 6-foot strip at a time, using one pailful for each strip. A second man followed with a wooden rake, going over each strip as it was completed by the sower. As soon as the first five strips were seeded and raked, the string was taken up and moved ahead, another mixture made and another seeded. The roller followed immediately after the raker.

The method proved both rapid and effective. The area was completed by noon, just as rain began to fall. Grass appeared in a week, and by the end of October there was a fine lawn.

W. B.



With a sharp knife cut all plantains, dandelions and crab grass out from the roots



The sower spreads a pailful of mixture to each six-foot strip

The New Lawn

THE first and prime requirement for a new lawn is good soil. Rich garden loam is a necessity, and it must be deep. If the top soil of rich loam has a depth of one and a half feet the lawn will surely be a success. Such soil may be prepared by gathering the leaves in the fall and putting them in a compost heap with other rubbish from the garden. If this is left over the winter it provides a rich soil foundation. If you have not this depth of soil, at least see that it conserves moisture. A good lawn may be had with a depth of only four to six feet, provided its foundation is packed tight, or of clay consistency. This will form a basis to retain water. Of course, on a golf ground where the grass is low the

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While one man brought soil, others mixed seed with it in proportion of a pail to a barrowful of dirt



The lawn, thirty feet wide, was divided into six-foot strips, which were seeded separately, then raked and rolled at once

Up the Hill to Our House

THE TRUE STORY OF THE JOYS AND DESPAIRS IN THE LABOR OF MAKING A HOME IN THE COUNTRY

BY MARTHA McLEOD

EDITOR'S NOTE: *The first chapter of this history appeared in the March issue and told of the selection of a site, its reclamation from Nature and the building of the house.*



No parent was ever more pleased with a child than was I when my flowers responded to the touch of Spring

WE had now finished the foundation work of the place, but it looked almost dreary in its bareness. With longing eyes I often studied our landscape plan, and, while we could not at once take upon ourselves the expense of carrying it out, we determined to do it gradually. As we developed the plan, we altered some of its features to suit our needs. When we bought the land the only trees near the site of the house were two ash trees and an old misshapen cherry tree. The latter our builder tried to persuade me to cut down, but I was upheld by the landscape architect in my belief that it lent a rather artistic, Japanesy touch. Let me try to give you a crude idea of the topography of our house and grounds. Our property is rectangular in form and is bounded almost entirely by trees. The house is situated transversely in the southwest corner. To the west is the vegetable and fruit garden; directly behind the house is the evergreen garden, and on the east is an extensive lawn, with the various farm buildings. In front of the house a circular drive cuts out a section of the lawn, and here are planted the flowering shrubs and trees arranged for landscape effect.

On entering the front door, as I have before mentioned, one's eyes travel through the piazza door over the terrace to the view. Instead of shaping the piles of earth thrown by the workmen from the foundation into terraces, according to the plan, we shaped it in the easiest way, but in accord with the lines of the house. We hedged it about with barberry and contented ourselves, for the time being, with the fine grass. Before long, however, we intend to carry out this plan in almost every detail. In one respect I deliberately changed it. The plan directed me to put nothing but evergreens about the house, but, wishing to have my flowers within whispering distance, I disregarded the instructions, and gaily went on with my diggings. After all, the best use of advice is the influence which it has upon one's powers of decision. The space on the left of this terrace was intended for the vegetable garden. A tennis court was drawn where our garden is now, but, as we did not build the tennis court and preferred a more distant situation from the house, we arranged our garden on the site mentioned. Along the left border of the place, which runs parallel to the boundary on the right, is a line of fine, old trees, oak, ash, chestnut, and four ancient russet apple trees, which form a foreground to the view.

The next spring we did some planting, and the third spring added to it, the pictures portraying the result of three years' work. Immediately after we bought the land we decided to border the roads with maple trees. I would not run the risk of failure by superintending the planting of these, therefore we left the matter entirely to our landscape architect. Though the expense was considerable, we have never regretted the outlay. He put in thirty sugar maples, fourteen feet high, and of these five were planted below the hill, with which to replace those that might die. Each tree is a fine specimen, straight and full, and they stand like soldiers on guard. With one exception, where a bubbling spring played Lorelei with the roots, they all thrived, in spite of high winds and icy winters. We were greatly puzzled by the state of the leaves after they were fully spread. They became ragged and full of holes. We could not detect any sign of bug, worm or blight. The hired man suggested that there might be an insect whose deeds of darkness were performed after sundown, so I asked David to shake the tree, as our man advised, but David, abhorring all insects, from the slippery earth worm to the loggie June bug, flatly refused for fear they would fall upon him. All my arguments were unavailing, as he had become hardened to my taunts while camping, when I was forced either to bait my hooks or resist the call of stream and brook. I valorously shook each sentinel till its bones rattled, but, in spite of my fears, no bugs rained down. Like the Peterkin family, we searched our manuals and racked our brains, until finally the fact dawned on us that the breezes, taking advantage of the youth of my trees, had blown their spring dresses into tatters. After some time had gone by we planted a few other deciduous trees, and above one corner of the vegetable garden we made a small plantation of poplars.

No matter how well one may plan or the enthusiasm with which one enters into the labors of the Kingdom of Nature, the effort is cast upon barren soil unless one has the help of a competent man.

After being with us for one year, our excellent Swiss was called home. Next in turn came Francois to make my life a burden. He had all the faults, but none of the virtues, of the French race. The only two things he was interested in caring for were the cow and himself. I have a distinct idea that this combination was a matter of cause and effect, for each time I asked him to do some laborious piece of work he spluttered in his bourgeois French that it was most important, Madam, that *"la vach"* should be taken to a distant field to feed on a certain kind of grass, or that she had to be milked, fed, watered or brushed. Until I learnt more about cows, I meekly yielded and wondered at the attentions this gaunt female required. When the hot rays of the sun reached the lan-

guorous heart of each leaf and person, even the daily walk with the cow to hidden pastures grew too much for Francois. Then he would pretend to busy himself with some utterly useless occupation. It made no difference whether I gave him some specific work to do, it was sure to be neglected in a short time.

One hot day I was wearily drawing my feet through the powdered dust of the road, the sun shriveling every picture in my imagination save the one of our piazza, where the combination of breeze, shade and rest awaited me. I climbed slowly up the steps, sank into a wicker chair and closed my eyes. "I wonder what Francois is up to," was my last thought, as I dozed into a little "cat nap." I was brought to consciousness again by a faint, rasping sound, mingling with the droning of the bees. I opened my eyes, looked over the terrace, then leaped to my feet. Francois, with a little saw, was neatly lopping off all the lower branches of my last poplar tree, leaving the most absurd feather dusters in mid air. *"Hah! mon Dieu que faites vor? attendez instament."* The astonished man saw me rush wildly into the house. I had good reason for this. My French being rather circuitous in its expression, I flew to my dictionary for forcible idioms with which to abase the blunderer. With trembling fingers, I turned the pages, and in a moment hurried out and hurled my tirade eloquent in its vehemence at the cowed Francois. Well, the harm was done, so I bravely tried to think of my trees as adding one of thise uncouth landscape effects which some people like Francois admire. When I found him the next week sawing down a dead tree over which I was training a vine I was threatened with permanent ill-temper. Francois was discharged.



"'They will never come up,' I said, when I planted my hollyhocks—but in two weeks they were elbowing each other shamelessly."

In answer to an advertisement, an army of incompetents besieged David's office, to his decided embarrassment and the amusement of the other members of the office. After several changes, our Swiss returned, and the place flourished happily ever after.

For "all-the-year" homes, evergreens are most essential, and should be planted when the place is new, as they are of slow growth. We intended many times to stay well into the winter, so I bought quite a number of hemlock, White Scotch and Austrian pines for winter to adorn with his white mantles. They ranged in height from four to five feet. A neighboring friend, whose chief occupation was reading novels and bemoaning her fate for having built in a place where there was "nothing to do," spent half her days sitting on my porch good-naturedly jeering at my strenuous life. "How can you do it?" was her chief refrain. When I showed her my pine trees and told her I had bought them to blot out her house in winter, she laughed in her lazily, humorous way, saying: "You really don't expect to be alive when they are big enough to do that, do you?" "I hope to be," I answered, laughing; "my ancestors have all been long-lived. I expect these trees to be really big in eight years." "Well, *I* simply couldn't bear to plant things unless they were full grown." "Nonsense," I tartly replied. "When you are still saving money enough to buy such trees and are sweltering in the sun, I shall be luxuriously lying in the shade of my evergreens." I thought I did not disdain a humble beginning, but my mother was really the one to start at the root of things. On her return from a trip through Nova Scotia she brought home an Indian basket filled with seedling larches. She wrote, telling me of her new addition to her garden, and I wrote in reply a letter filled with that lofty tolerance which is so easy to assume when one considers another's foibles. A few seasons later, when I saw those larches, I was positively amazed to note their growth, to say nothing of their beauty. I admired them immensely, and listened with interest to their history. "Do give me one, mother," I begged. "Why," she replied, "you can get any amount from a nursery, and at reasonable prices." I fingered the tender, green foliage. "But I don't want just any larch; I want a larch all my own, from Nova Scotia." My mother smiled, and more kindly than my previous scoffing warranted, merely replied: "That is just the point." By this was it driven home to me that the bit of Nature dearest to our hearts is that over which we have labored and have association. This may be the reason why those who are, unfortunately, rich enough to buy nature so seldom feel that intangible delight that a humble flower can give.

As the trees happened to arrive on a holiday, I thought it would be a good chance to arouse David's enthusiasm by planting them himself. The question was how to get him to do this of his own accord. I felt it was necessary to resort to a ruse. I sorrowfully gazed at my evergreens, and commented on the lack of labor on a holiday and the risk of loss by leaving the trees unplanted.

I was very anxious to have my evergreens put in at once. David offered his services. We took very careful and expert measurements for the planting from the landscape plan, almost all of which we changed before we were through. When we had finished our measurements we realized with amazement how late it was. David began to dig, and I watched with amusement how each succeeding hole was decreased in size, quite like one's appetite at a Thanksgiving dinner, as the courses progress. We knew less than nothing about planting, but we were in delightful ignorance that there was anything to know. We gaily crammed the roots into their little holes, threw earth in and patted around them with the spade. "No reason why they should not live," commented David. "I don't know," I doubtedfully replied; "Do you suppose anything could be successful which is done so easily." "Easily!" David,



Our tiny brook winds slowly through masses of rosy laurel

who had been leaning on his spade, straightened his cramped back, with a groan. I heartlessly laughed, as I realized that one could hardly call this a holiday for him. Before many months our beloved evergreens had shown kinship to the chameleon, for the emerald green had turned to brown. The hemlocks gradually died down till only feathers of green showed around the roots. "I am going to cut off all but the green," I said. The onlookers smiled condescendingly. "Less trouble than to dig them up," said someone. "Wait and see, my instinct says they will live," and they did. After this drastic pruning, the roots grubbed with fresh energy to do the supporting. That season we ordered a fresh supply, and a very competent man did the planting. To be prepared, I had also studied up the matter. He dug large holes and threw in plenty of top soil; then, standing the tree up, he spread the roots, gradually throwing in earth, and tapped about them with a flat-bottomed pole. We did not fill the hole entirely, but threw in several buckets of water, and the next morning covered it level with the grass. Needless to say, these evergreens grew speedily. When my evergreens were one-season old I wished to add to their number. The only objection to gratifying my desire was the fact that we returned to our home late in June, after the planting season. A short distance away from our place stood a line of young Scotch pines seven feet high, which looked very tempting. I was able to buy them from our neighbor, and decided that it would be worth while to attempt the transplanting. As the ground had been saturated by a three-days' rain, it was comparatively easy to dig them up with a good ball of earth about the roots. This being our first experience of the kind caused us to take more than ordinary care. We followed all the professional tactics, protecting the roots from the sun and wind, wrapping the ball of earth in burlap, and when safely in the hole, drowning the roots in water. The next day I observed with sorrow all the furry fingers pointing down, but they merely wished to make the one sensation of their lives, as the following evening these strenuous finger shoots were all pointing skyward again. I then believed what a gardener once told me: "You sure can plant annything anny toime, if ye have any sinse." The attitude of gardeners towards the object of their labors varies as widely as that of parents toward their children. One class always taking for granted, but never quite satisfied with the attentions bestowed upon them by their children. Other parents, imbued with the idea that, having taken upon themselves the responsibility of new lives, feel delightedly grateful if their children crown them with love and success. After a fall planting, the months seem long before the spring shows the result for better or for worse.



My flowers were modest in their demands, and for one whole summer the yellow iris entertained us with their sunny noddings



The flowered path invites one into the woodland of oak and maple

No parent could have been more pleased over the awarding of a diploma to a child than was I when all my shrubs responded to the touch of spring.

My place must have a feathery boundary, and perish the thought of the stiff privet hedge, so our landscape architect planned a hedge of flowering shrubs. Day after day in the early fall I looked at the odd shapes drawn on my plan, puzzled out the list of numbers and names, and finally arrived at the amount of shrubs needed of the different varieties. Then came the search in catalogues for prices and sizes, and finally a comparison of the selected list with the state of our financial affairs. It was no easy matter to make my checkerboard square satisfactorily. I was, fortunately, only able to order two-thirds of each variety, as otherwise they would have been too thickly planted in the allotted spaces. After some industrious consultation of the cryptic figures and symbols on the plan, I was able to visualize the results and inject my own ideas, which were so vague and indefinite before.

Forsythia fortunæ is the golden bell which rings in the early spring. Dogwood then begins to bloom, while next in turn comes the creamy viburnum. Scarcely have these flowers faded when the spirea, appropriately called bridal wreath, is in its glory. When these snowy petals have fallen the weigelia displays flowers of shaded, pink bloom to comfort your loss. Dainty, white deutzia, syringia and masses of white *Hydrangea paniculata* follow in turn. All through the spring and early summer this flowering hedge brings delight to all who pass.

At eighteen, when pleasure and lack of care seem the all-important points in life, I watched with amused tolerance my mother, not only tending her flowers, but fairly slaving over them in midsummer madness. Occasionally, in an unsuppressed moment of enthusiasm, when she forgot that my thoughts were completely absorbed by tournaments and gayety, she would call: "Oh, do come into the garden for just a minute, and see my wonderful flowers," and, having dragged me reluctantly down the steps, she pointed out to my unseeing eyes the wonders of her Italian garden. "Why, mother," I would vaguely reply, "flowers are nice to have around the house, but I cannot imagine becoming so much interested in them that I could toil out here in the blazing sun. With you, gardening is like eating nuts; when you once start, you cannot stop." "Oh, child," she laughed, "wait until you have your own home, and have no flowers about you; then we will see how you feel about them;" and I wondered if I too would be drawn into the spell of the mystery of living things. It was only a few years after that, I wrote a pleading letter to the flower magician: "I must have flowers around my house, mother; when shall I get; when shall I put them in, and how?" In response to my note I received a great box containing the overflowing offsprings of her

plants. I welcomed them, feeling that we were very closely related. I opened the box with all of Pandora's excitement surging over me. In a corner lay a paper with the familiar writing. I snatched it up, and grew confident as I read the detailed directions for planting. I lifted a bundle of roots labeled achillia, and gently fingered them. "Queer things," I mused; "look quite like the 'wild men of Borneo,' with hair sticking up and whiskers hanging down; I wonder which end I should plant!" I was determined that some should live; so our man dug a trench, and I stood half on their whiskers and the rest on their heads. I was glad, may be foolishly so, that I had done this, as many came up to join the ranks of the flowers. In this same box were a number of bulbs, and, even though they had lost their labels, I felt quite proud in recognizing them as iris. Around one end of the house I had planted wisteria, so I placed the iris there to harmonize with the beautiful vine. Imagine my surprise when I found aggressive yellow lillies bursting out of their green jackets with quite the confident air of guests who unwittingly appear on the wrong day, and I was filled with much the same confusion as the host would experience. Fortunately, the wisteria was more conservative in its growth, and the lilies, for one season at least, entertained us with their sunny noddings. Among the other things were quantities of bulbs, which David healed in himself in a very unprofessional, irregular nursery. When they were all settled for their "long winter's nap," a neighbor informed us that they could not be transplanted in the spring, as we had intended. David groaned in despair at the thought of renewed effort, and refused to change them. When the spring came, the unintentional sweep of tulips, narcissus, snow-drops and hyacinths was lovely, and has now become an artistic feature of the place, especially appreciated by David.



Brilliant iris blooms, with fragrant wisteria, and past the ivied porch, the gentle hills fading into the distance

For one who has many calls upon them beside the hours of delight spent among the flowers, it will be found most satisfactory to rely upon perennials, with annuals as fillers in. Flowers are the dessert in the feast of Nature, and there should be no burden in connection with them, to even slightly dim one's joy in the delight they have to offer. The flowers which we planted could be well managed by a person either too lazy or too busy to attempt a larger assortment. My flowers are modest in their demands, and with a little hoeing, an occasional drink in dry weather, and a blanket of manure in winter, their only desire is to be left quietly to themselves, and they generously give me the credit for their glory.

Having profited by the experience of my first summer, I again planned the bed at the end of the house, where I had inadvertently placed the yellow lillies. The following Fall I transplanted them to a corner of the place in a plantation by themselves. I substituted for them an assortment of plants which I had calculated would bloom in succession. By the thorough intermingling of the varieties in the bed, it was a delight throughout the season to note how each recurring bloom presented an almost solid mass. My iris now had found their permanent home, and might flower in all their glory, while the wisteria blossoms nod down in gay approval from their trellis above.

During the mid-summer months I rejoiced in my salmon-pink and white phlox, the colors harmonizing well with the pink geraniums of my flower box, and the Dorothy Perkins vines.

David had collected in a large paper bag myriads of hollyhock seeds from the garden of one of his relatives. I will never forget the day when, too tired and hot to do anything properly, I walked around the house trailing a stick behind me as a child might do, and into the indentation which this made in the earth, I sprinkled the hollyhock seeds, and carelessly fanned the earth over them with my spade. "They will never come up," I thought, "and I'm too hot to care." Not long after, I was pleased to find David weeding my garden. He fairly reveled in this task. "Each weed killed," said he, "is one less." "Just like our sins," I primly added, looking at him. "What is this weed which is coming up in a sort of row about the house?" he asked, holding up a handful. "My hollyhocks!" I cried, and excitedly ran along the bed. They were elbowing and crowding each other mercilessly, so I left the task to David of thinning them out. That summer they hardly flowered, but the following year they speedily grew over ten feet high. The shades were most beautiful, varying in color from creamy pink to deep red, and there was scarcely a flower which could not boast of exquisite color. A mass of yellow chrysanthemums wound up the joyous summer months, with their feast of sunlight.



Our cement stable I screened about with a hedge of golden glow

Should I attempt to describe the garden of my dreams, with limpid pools and glowing flowers, I would be lost for days in the maze of my fairyland. A group of those most adorable, baby-eyed flowers, forget-me-nots, bring me dangerously near to that land of romance. Lilies of the Valley also stir my heart with a reminiscent thrill of child days, when the princess lily ruled my flower world by her exquisite daintiness. The *Festiva maxima* white peonies are also surrounded by this virgin atmosphere and delight the passerby with their splendor. Myrtle, of shiny leaf and sky-blue flower, is not usually known as border, but, trained in the proper way, it is ideal for that purpose. First it is planted in a single row, and each spring the roots must be gathered in the hands and heartlessly clipped.

(*Continued on page* 301)

A Garden Plan for Every Man

The plan below is a suggested arrangement that may be adapted for any garden, in that it contains elements of bed border and boundary planting found everywhere. The arrangement is suggestive, and the lists given for each division are to be selected according to the taste of the individual. The key figure to the plan are followed by the names of plants, their height in inches, their season of bloom, while below is given the distance between plants when they are set out

Low Growing Plants—Bed A

1 *Adonis vernalis*.....12"
Adonis April
6 inches apart.

2 *Myosotis palustris*..... 8"
Forget-me-not May-June
8 inches apart.

3 *Papaver nudicaule*.....12"
Iceland poppy.....May on
8 inches apart.

4 *Saponaria Caucasica*.....15"
Bouncing Bet.....June on
1 foot apart

5 *Campanula Carpatica*..... 8"
Harebell May on
1 foot apart.

6 *Armeria maritima splendens* 12"
Thrift, or Sea Pink,
All summer
8 inches apart.

7 *Saxifraga umbrosa*.....12"
London Pride.....July on
8 inches apart.

8 *Sedum Sieboldi*..... 8"
Stonecrop Sept.-Oct.
8 inches apart.

Succession of Bloom—Bed B

1 *Adonis vernalis*.....12"
Adonis April
6 inches apart.

2 *Achillea ptarmica*..... 2'
Yarrow.....June on
1 foot apart.

3 *Digitalis lanata (fl. pl.)* 3'
Foxglove June-July
15 inches apart.

4 *Phlox*, "Elizabeth Campbell" 2½'
Phlox July
12-15 inches apart.

5 *Althea rosea*..... 5'
Hollyhock July-Aug.
18 inches apart.

6 *Gaillardia grandiflora*..... 2'
Blanket flower.....June
15 inches apart.

7 *Boltonia latisquama*..... 3'
False chamomile...Aug.-Sept.
15 inches apart.

8 *Chrysanthemum* "Rhoda" 2'
Hardy chrysanthemum,
Sept.-Nov.
18 inches apart.

One Color Plantings—Bed C

RED.

1 *Paeonia offic. rubrum*....18"
Peony May
18 inches apart.

2 *Papaver orientale*.....18"
Poppy May-June
8 inches apart.

3 *Phlox Coquelicot*..... 2'
Phlox June
12-15 inches apart.

4 *Gaillardia grandiflora*..... 2'
Blanket flower.....June-Aug.
15 inches apart.

5 *Althea rosea*, double red. 5'
Hollyhock Aug.
18 inches apart.

6 *Monarda didyma*.....2-3'
Beebalm July-Aug.
15 inches apart.

7 *Lychnis chalcedonica*..... 3'
Jerusalem cross....July-Sept.
15 inches apart.

8 *Lobelia cardinalis*.....2-3'
Cardinal flower....Aug.-Sept.
10-12 inches apart.

9 *Tritoma Pfitzerii*..... 3'
Red-hot poker.....Aug.-Sept.
15 inches apart.

10 *Chrysanthemum*, "President" 2'
Hardy chrysanthemum,
Sept.-Nov.
18 inches apart.

11 *Silene Shafta*, for edging. 6"
Catchfly July
8 inches apart.

YELLOW

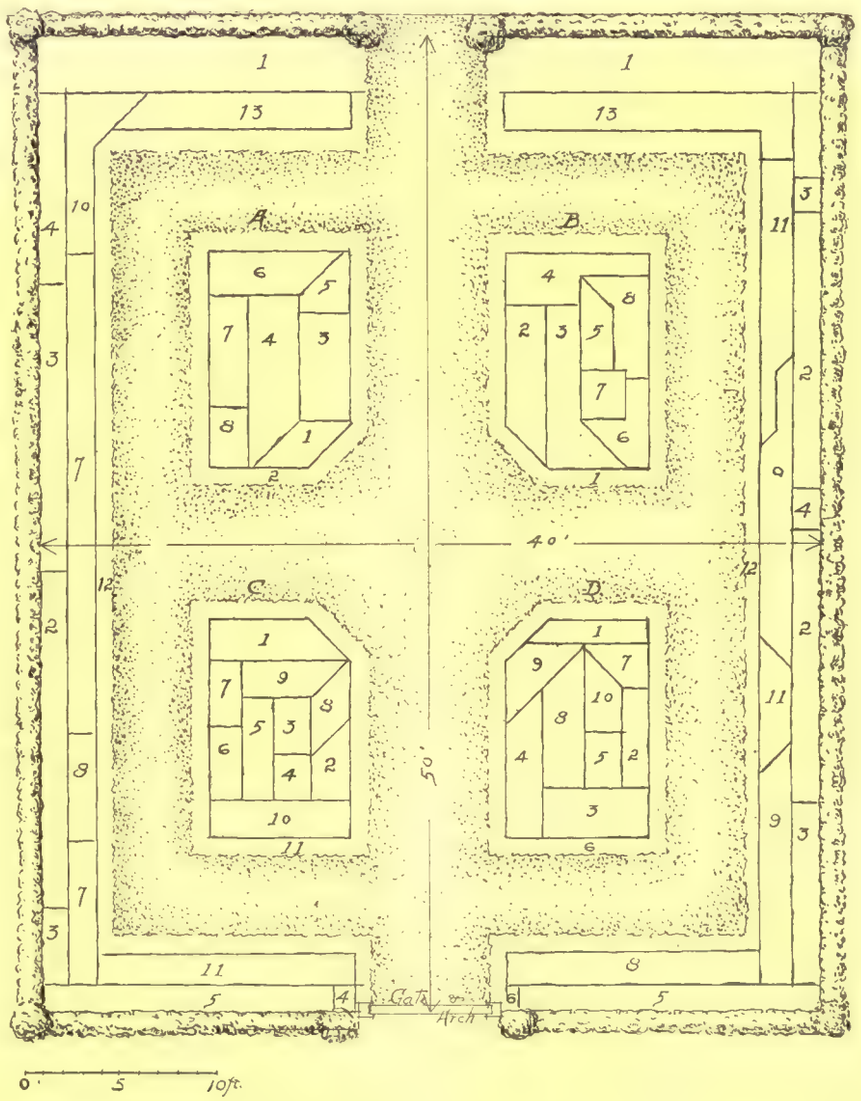
1 *Anthemis tinctoria*.....15"
Hardy Marguerite.June-Aug.
1 foot apart.

2 *Adonis Amurensis*..... 1'
Adonis, or bird's eye..April
10 inches apart.

3 *Iris*, "King of iris"..... 2'
German iris.....May
15 inches apart.

4 *Trollius Europaeus*..... 2'
Globe flower.....May-Aug.
1 foot apart.

5 *Althea rosea*, double yellow, 5'
Hollyhock July
18 inches apart.



6 *Hemerocallis Thunbergii*.. 3'
Tawny day lily.....July
1 foot apart.

7 *Cassia Marilandica*..... 4'
American senna....July-Aug.
18 inches apart.

8 *Hypericum Moserianum*.. 2'
St. John's wort.....June on
15 inches apart.

9 *Doronicum Caucasicum*. 2'
Leopard's bane.....May
1 foot apart.

10 *Chrysanthemum*, "Boston" and "Sunshine"..... 2'
Hardy chrysanthemum,
Sept.-Nov.
18 inches apart.

11 *Viola lutea splendens*, for edging 6"
Tufted pansy.....All summer
8 inches apart.

BLUE.

1 *Funkia caerulea*.....18"
Plantain lily.....June-July
1 foot apart.

2 *Linum perenne*.....18"
Flax July on
1 foot apart

3 *Iris Germanica*, "La Tendresse" 2'
German iris.....May
15 inches apart

4 *Gentiana Andrewsii*..... 2'
Blue gentian.....Sept-Oct.
1 foot apart.

5 *Delphinium belladonna*...3-5'
Larkspur July
15 inches apart

6 *Veronica longifolia subsessilis* 3'
Speedwell July-Aug.
1 foot apart

7 *Anchusa Italica*, "Dropmore" var..... 3'
Bugloss or Italian Alkanet May-July
1 foot apart

8 *Lupinus polyphyllus*..... 3"
Lupine May

9 *Campanula pyramidalis*... 4'
Chimney bellflower.June-July
1 foot apart.

10 *Iris Japonica*, "Samidare"
Japanese iris.....2-3'
15 inches apart.

11 *Campanula Carpatica*, for edging 8"
Carpathian harebell..June on
8 inches apart.

PINK

1 *Paeonia officinalis rosea*..18"
Peony May
18 inches apart.

2 *Dianthus barbatus*.....18"
Sweet William.....June
10 inches apart.

3 *Campanula medium, rosea* 3'
Canterbury bells....June on
1 foot apart.

4 *Dictamnus fraxinella*....2½'
Gas plant.....June-July
1 foot apart.

5 *Althea rosea*, "Newport pink" 5'
Hollyhock Aug.
18 inches apart.

6 *Phlox decussata*, "Manzelbrunnene" 2-3'
Phlox June-July
12-15 inches apart.

7 *Heuchera sanguineum*.... 2'
Coral bells July-Aug.
1 foot apart.

8 *Lilium speciosum*..... 2'
Lily Aug.
10 inches apart

9 *Anemone Japonica*, "Queen Charlotte" 2'
Japanese anemone..Aug.-Sept.
10 inches apart

10 *Chrysanthemum*, "Rosinante" 2'
Hardy chrysanthemum,
Sept-Oct.
18 inches apart

11 *Armeria maritima, splendens*, for edging..... 9"
Sea pink.....May-June
8 inches apart

LAVENDER.

1 *Primula caerulea*.....10"
Primrose May
8 inches apart.

2 *Trillium erectum*..... 6"
Wake-robin April-May
6 inches apart.

3 *Aster alpinus*.....10"
Alpine aster.....May-June
6 inches apart.

4 *Aster sub caeruleus*.....12"
Dwarf hardy aster..June-July
8 inches apart.

5 *Aster grandiflorus*.....2-3'
Hardy aster.....Oct.-Nov.
1 foot apart.

6 *Stokesia cyanea*..... 2'
Stokes aster.....June on
1 foot apart.

7 *Statice latifolia*.....18"
Sea lavender.....June on
1 foot apart.

8 *Lavendula vera*.....18"
Sweet lavender....July-Aug.
10 inches apart.

9 *Scabiosa Caucasica*.....18"
Blue bonnet.....June on
10 inches apart

10 *Caryopteris mastacanthus*..3'
Blue spirea.....Sept.-Nov.
15 inches apart

11 *Ajuga reptans, rubra*, for edging 6"
Bugle May
6 inches apart.

MAUVE TO MAROON

1 *Mertensia Virginica* 18"
Blue bells.....May-June
10 inches apart.

2 *Funkia Fortunei*.....18"
Plantain lily.....Aug.
1 foot apart.

3 *Iris Germanica*, "Lohengrin" 2'
German iris.....May
15 inches apart.

4 *Astilbe Arendsi*, "Vesta".2-4'
Astilbe hybd.....July-Aug.
18 inches apart.

5 *Althea rosea*, double maroon 5'
Hollyhock Aug.
18 inches apart.

6 *Eryngium amethystinum*.2-3'
Sea holly.....July-Sept.
1 foot apart.

7 *Delphinium*, "Queen Wilhelmina" 3'
Larkspur June-July
18 inches apart.

8 *Boltonia latisquama*.....2-3'
False chamomile...Aug.-Sept.
15 inches apart.

9 *Aster Novae Angliae*..... 4'
Native aster.....Sept.-Oct.
15 inches apart.

10 *Chrysanthemum*, "Little pet" 18"
Hardy chrysanthemum,
Sept.-Nov.
18 inches apart

11 *Iris cristata*, for edging...3"
Crested iris May
10 inches apart.

Two Color Combination Plantings—Bed D

YELLOW WITH WHITE

1 *Caltha palustris* . . 1'
Marsh marigold.....April
6 inches apart.

2 *Alyssum saxatile*..... 1'
Yellow alyssum.....May
6 inches apart.

3 *Hemerocallis flava*..... 2'
Lemon lily.....June
1 foot apart.

4 *Coreopsis lanceolata*..... 3'
Coreopsis June on
1 foot apart.

5 *Hypericum Moserianum*.. 2'
St. John's wort.....June on
15 inches apart.

6 *Arabis alpina*..... 6"
Rock cress.....April
6 inches apart.

7 *Iris Florentina alba*..... 2'
Orris root iris.....May
15 inches apart.

8 *Phlox*, "Miss Lingard"..2-3'
Phlox June
15 inches apart.

9 *Achillea ptarmica fl. pl*.... 2'
Yarrow June
15 inches apart.

10 *Cimicifuga simplex*..... 3'
Snakeroot Sept.-Oct.
1 foot apart.

YELLOW WITH LAVENDER.

1 *Primula vulgaris*..... 1'
Primrose May
8 inches apart.

2 *Doronicum Caucasicum*... 2'
Leopard's bane.....May
1 foot apart.

3 *Baptisia tinctoria*..... 2-3'
False indigo.....June-July
1 foot apart.

4 *Heliopsis Pitcheriana*.... 3'
Small sunflower.....June
18 inches apart.

5 *Chrysanthemum*, "Sunshine" 2'
Hardy chrysanthemum,
Sept.-Nov.
18 inches apart.

6 *Ajuga reptens rubra*.. 6"
Bugle May
6 inches apart.

7 *Primula caerulea*.....10"
Primrose May
6 inches apart.

8 *Erigeron grandiflorus elatior* 18"
Flea bane.....June-July
1 foot apart

(*Continued on page* 319)

First Aid to the Orchard

INSECT EPIDEMICS—HOW TO DIAGNOSE AND PRESCRIBE FOR THEM—SOME PREVENTIVE AND CURATIVE MEASURES

BY WALTER C. O'KANE

New Hampshire Agricultural Experiment Station

LIKE the ice man, the July sun and hay fever, most bugs take a vacation in winter. Swelling spring and full-blown summer are the heyday of their prosperity.

So be it. We can spare them without greatly stretching our heart-strings. Out of sight is pleasantly out of mind.

The trouble is that summer is coming again, and so are the tribe of insects. Moreover, at this time of year it seems to be their habit to show up without warning and in astonishing numbers, and to get in a lot of damage before we can take them in hand.

We find some morning that half the leaf clusters on our apple trees are turning brown, and thereupon we learn that an invasion of the Bud Moth is in progress—for which we should have sprayed two weeks before. Plant lice curl up the leaves, and can no longer be reached because now hidden in their self-made shelters.



In early April Tent Caterpillars are still in the egg stage. Now is the time to destroy them



The Wooly Aphis causes characteristic swellings of the twigs. Tobacco dust applied to the roots is a good remedy

Yet the very reason why some of these hungry fellows catch us napping is because they are here right now—on or about our trees, ready to jump into life with the coming of spring. They may not look much like the lively worm or bug that will be on the job a month from now, but they can be found and recognized. In fact, by the abundance of a species it is entirely possible to judge whether an outbreak is on the way, and to prepare for it. It is not necessary to wait until the house is afire before taking the trouble to stop up the crack in the chimney.

There are some of the early comers that cannot be counted in, for they are hidden away where no feasible search can reveal them; for instance, those that enter the ground to hibernate. But the rest are on or about the trees that they will infest. No other trees except those on which they are now at rest will be attacked in the beginning of the season; conversely, any trees on which they are now found will certainly be invaded more or less seriously. It is a definite proposition either way.

The twigs of the trees tell half the story. Eight or ten of the common orchard pests habitually stay there in winter, and two or three others are likely to be near by.

On apple twigs, out toward the end, are the winter eggs of plant lice. Shiny, black, oval, just large enough to be seen easily with the naked eye, they are scattered thickly in the fuzzy hairs that cover the ends of young shoots, or tucked away in crevices around bud scales. If abundant they mean that thousands of greenish lice will soon be clustered on the opening buds and foliage. A thorough spraying with tobacco extract, or with lime-sulphur, one to seventy, will be needed promptly.

Close by, the egg-masses of the Tent Caterpillar encircle the twig, like a brownish-black swelling, half an inch long and covered with a glistening varnish. Within each egg-



The San José Scale is a most destructive growth, and it requires close scrutiny to detect it



The Rusty Tussock Moth usually fastens a leaf to a twig. Arsenate of lead will kill the egg masses



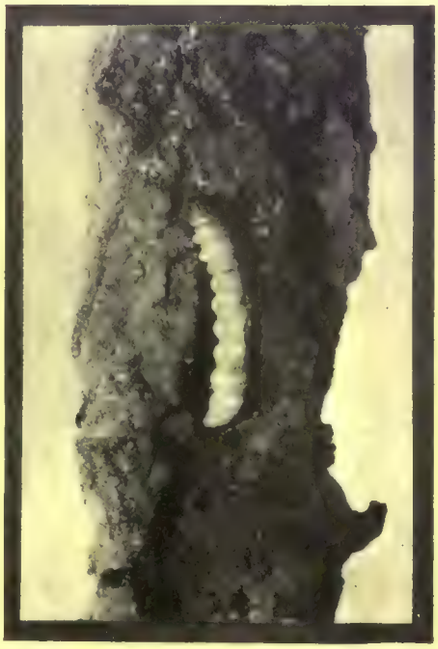
The Oyster Shell Scale thickly encrusts the bark. Prompt action is necessary to preserve the tender growth



The Round Headed Borer works near the base of the trunk and usually he leaves a trail of sawdust



Under the bark of apple trees is the Flat Headed Borer. A sharp knife will disclose his burrows



There is always tell-tale gum where the Peach Borer is at work. Probing for the grubs with a wire is an effective cure

mass two or three hundred small, hairy caterpillars are ready to come forth as soon as spring is under way. There is no need to wait until the colonies have made their tents in the forks of the trees. A dose of arsenate of lead before the blossoms open will finish the young worms.

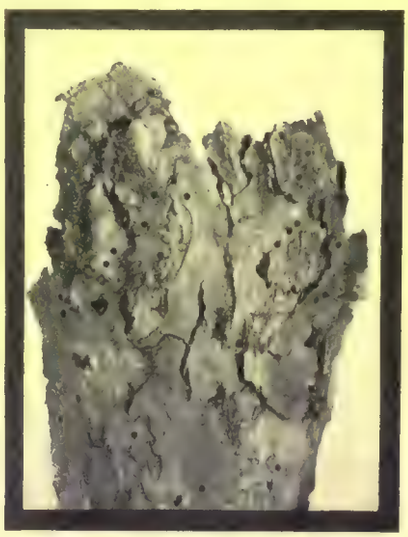
The Woolly Aphis gives almost invariable warning of its presence in peculiar enlargements of the twigs, especially where side buds start. Often these enlargements crack open, and sometimes the bluish, dead body of an aphid will be found in the crevices. It was the feeding of summer colonies that caused the swellings. This was injurious, of course, but the real damage was done by similar colonies then and now on the roots. Old trees usually seem able to withstand this pest. On young trees it will be a wise precaution to draw away the earth from around the crown of the tree, down to the first roots and out for a foot or two, and apply two or three pounds of tobacco dust, replacing the soil afterward.

There is a group of case-makers that follow the fashion of spending the dormant season in little silken hibernacula, attached here and there to twigs or branches. The Bud Moth does this. So does the Leaf Crumpler.

The home of the latter is a small, horn-shaped tube, half an inch long and about the color of the bark. That of the former is still smaller. Two others with similar habits are the Cigar Case-Bearer and the Pistol Case-Bearer. Tear open any of these silk shelters and you will find within a naked worm. If you discover them in numbers, spray the orchard with a poison when the buds begin to break, and don't postpone it, for you can't get at them later.



Tiny round holes through the bark betray the Shot Hole Borer. A dead limb or a decrepit tree is its favorite breeding place



The Shot Hole Borer runs his characteristic galleries underneath the bark. To check it burn or amputate the dead wood in the Spring

Twig, branch or trunk is the chosen place of the scale insects. Whatever the species, they occur closely attached to the bark, in greatest numbers, as a rule, wherever the bark is thin and tender. Now is the time to look for them.

The Oyster Shell Scale is well described by its name. It is large enough to be seen distinctly without any lens. Repeated spraying each spring with lime-sulphur will control it. If you desire to finish up the job in one season, use kerosene emulsion, applied when the young scales are found crawling over the bark, which will be when warm and fairly settled weather is at hand.

San José scale is one of the most difficult to detect, because it is so small and so closely matches the color of the surface on which it rests. It is round and flat. If one uses a hand lens one will see that there is a depression in the middle of it, in the center of which there is a distinct, raised point. Lime-sulphur is the best remedy, to be applied when the buds are just beginning to swell.

There are many other species of scales. Most of them are not easy to identify. When a strange one is found, send a sample twig to your State experiment station or to the Bureau of Entomology at Washington.

Curious affairs are the egg-masses of the Tussock Moths. Invariably the eggs occur on the top of the dark, gray cocoon from which the female moth emerges. Wingless, degenerate, her activity carried her no farther than the roof of the house in which she was born. But the caterpillars that will hatch from these eggs, tufted and penciled fellows, will be spry enough

(*Continued on page* 300)



The New Way to Succeed with Dahlias

AN IMPROVED METHOD OF CULTIVATION FROM TUBERS WHICH ENSURES EARLY GROWTH—DIRECTIONS FOR PLANTING AND THE CARE OF THE BLOOMS

BY ANNA PITT

THE planting of dahlia bulbs is many years behind the times, according to the experts who have an open eye to these things. England no longer uses the bulbs at all, but sends them to America, retaining only the tuber's shoots at home for her own crop. These produce earlier results and better, the yield in flowers being decidedly increased, according to those who have tried it.

Here is the entire cycle to be followed: in March, take all the tubers from their storage quarters and spread them out on papers on the cellar floor, or in any convenient place which allows the space. Sort them over and reject all that have not kept well. Now, with a sharp knife divide the perfect ones by cutting the stems in sections lengthwise, making as many sections as there are tubers attached to the stem. Every tuber *must* have a small piece of the main stem attached—this is absolutely necessary.

Now, plant the tubers on their sides in soil in a box or pots, to start the sprouts. Water them as you would water any indoor plant—not often enough to keep them soaking, but as often as the earth indicates the need of it by showing dry on top. When the sprouts have grown to good, strong little plants about four inches long, or high, cut them from the tuber and plant them in other pots or boxes. Paper pots are convenient, as they may be set out from these when the time comes, without disturbing the roots in the least.

In these pots they are to remain until the weather is warm enough for outdoor planting—which is in June, usually, in this latitude. Have strong stakes ready when this time comes, five feet high or higher for the very tall varieties, and set one firmly by the side of each plant when it is put in the ground. Tie the plant at once to this with raffia—or better, with a piece of soft, narrow cloth. I have found the very best tying material to be a stocking or sock, cut any desired width, around and around. Begin at the top and cut one continuous piece, spiral-like, until the toe is reached; then roll into a ball. This makes a soft, clinging and enduring material.

Tie the dahlia again at intervals as it grows taller. When the plants have reached the height of two feet, pinch out the main bud, to make it branch and grow in bush form; this form will produce more flowers.

If, however, one prefers to plant the tubers instead of the sprouts, separate exactly as directed in the beginning, and plant *single* tubers instead of clumps. Planting in the usual way, in clumps, results in much leaf and a dearth of flowers. Lay the single tubers, with their little bit of main stem attached, on their sides at a depth of four to six inches in soil spaded and prepared to a depth of at least eight inches. Plant them no nearer than three feet apart, and do not round up the earth over the tuber. Rather let it be a little depressed, to hold moisture until it is absorbed by the soil.

Dahlias grow best well out of the reach of the roots of trees or shrubs, and where they have plenty of room and sunshine. Keep the ground cultivated around them and free from weeds—and if you wish exceptionally large flowers, allow only one shoot from a tuber to grow. They require a great deal of moisture, yet it is better never to water them. Keep the moisture from getting away during dry seasons by cultivating. The secret of success always is, "keep the plants growing." Short, extra stakes may be provided for the side branches, if these are allowed to grow, as dahlia stems are brittle, and a strong wind almost any day may break them off.

The best food for growing dahlias is ground bone and muriate of potash—one part of the latter to three parts of the former. When the plants come into full bloom, cut the flowers freely, and you will have a generous supply. Cutting promotes blossoming.

The dahlia will grow in almost any soil, but does the best in a sandy one. Indeed, it will grow in pebbles. If you can select from several kinds, choose a light loam with very good drainage; and it is well to add a little well-rotted manure if the soil is weak. But note particularly that an excess of fertilizer of this nature will produce a leafy growth at the expense of flowers. They may be fed from the surface by spreading manure or commercial fertilizer over the ground around the plant when it reaches a height of fifteen inches or more, and forking it in lightly.

It is best to purchase dahlias here rather than to import the tubers, for seventy-five per cent. of those imported cannot be successfully grown here, owing to unfavorable climatic conditions. Growing them from seed is interesting, and the plants will bloom the first year. They rarely come true to color, however; but the surprises of new colors and shades are very pleasing, especially in the single ones. The seeds themselves may safely be planted out of doors in May; or the plants may be started in the hotbed or in pots and transplanted into the ground about June. Preserve the seedling tubers in the fall, just as the others are preserved, for at least two years, growing them for a final selection of color and blossom.



The secret of dahlia cultivation is to "keep the plants growing." When about a foot high the shoots should be secured to stout stakes

When dahlias have stopped blooming, or when frost touches the leaves, dig them up on a sunny day; let them dry in the sun for half a day; then take them under shelter. When thoroughly dry, wrap each clump in a newspaper; tag with a label telling name and color, and pack away in a cool, dry place until another March. This completes the life cycle of one of the loveliest of flowers.

There are, of course, many varieties of dahlias—all lovely enough to suit all tastes. It is a matter of personal preference whether you will have tall bushes or shrubby ones, showy or quiet tones. Do be sure to have them in clumps of color, however, whatever you choose, rather than mingle them where each will fight for

(*Continued on page* 303)

Quality Crops for the Home



PRIME CORN AND ITS CULTIVATION—WHAT VARIETY TO GROW—DIRECTIONS FOR PLANTING AND CARE

BY D. R. EDSON

THE platter of corn that gives you a complete, soul-satisfying sense of perfection is usually an accident. Nothing is easier than to have one or two such delectable, melting feasts of sweetness; but few garden stunts are less frequently achieved than to have a continuous supply of sweet corn, in prime condition, over the six to ten weeks through which it may be had, according to season and climate.

Now, I maintain that a platter of *good* sweet corn is as well worth a little extra thought and effort as anything which the garden has to offer. And, furthermore, to succeed in having a continuous supply of corn in prime condition is not a particularly difficult task—it is a matter of additional "knowing," rather than of additional "doing."

Sweet corn, to be at its best, must be taken at just the right stage of development, a condition which it passes through very quickly. A little too early it is too soft and milky; a little too late, and the skin of the kernels has begun to get tough, too much boiling is required, and that indescribable "sweet toothsomeness" of corn that is just right has begun to disappear. (Incidentally, too, you should "have the pot boiling before you go out to pick the ears." Sweet corn goes stale very quickly, and, although it will remain edible for a number of days, every hour spent between the garden and the table takes the fine edge off the quality.) So, the only way to solve the sweet-corn problem is to have a new supply coming on every week or two, and have it just about large enough to last until the following one will be ready. If there is a surplus of ears that begin to get hard, they can be used to advantage for stewing—taking the kernels off the ears before cooking—for succotash or for canning.

Either one of two methods may be followed. You can make repeated plantings of one kind, at intervals of one to two weeks, and thus keep it "coming on" until frost. Or, by planting several different varieties at one time, carefully selected to mature in "succession," a supply for four to six weeks may be had from a single planting, so that two plantings only will be required to cover the whole season. Which method may be best to follow will depend on individual circumstances and taste. By the former the supply can usually be more accurately regulated; and where one variety, such, for instance, as the little honey-eared Golden Bantam, is a universal family favorite, this will be the easiest way—provided the gardener can be depended upon not to forget his planting dates. Where space is limited, too, it gives one the opportunity of planting his weekly row or two of corn where a previous crop has been cleared off, or between rows of stuff that will soon be gone by, and can be cleared away by the time the corn needs the room. Where space is not so restricted, and variety is appreciated, the second method will probably prove the easiest to follow.

The matter of *variety,* as affecting quality—as well as obtaining a continuous supply—is very important; more so than with most of the garden vegetables. But, before discussing varieties, let us take just a glance at the different *types* to be found, for, after all, they offer more definite distinctions than "varieties" that are, to say the least, dependent to some extent upon the claims of rival seedsmen, as well as upon distinctions of merit.

The several varieties of Early Adams are not true sweet corns at all. Their sole merit lies in their extreme hardiness, enabling extra early planting. The gardener who appreciates quality will omit them altogether, realizing that something much better may be had but a few days, if any, later. The second class may be termed the Extra Early true sweet corns, such as the several varieties of Cory and similar sorts. These are of fair table quality, but not nearly so good as the larger later varieties. You may have noticed upon opening a couple of packages of seed corn that there was a great difference in appearance, the kernels of one sort being smoother and very hard and flinty, while those of the other sort looked so shriveled and dried up that you doubted their being fit to plant. The smooth "flint" seed is a characteristic of the hardy, early sorts; when you find seed of a variety like that, you can plant it comparatively early, but plant only enough of it to last you until the better sorts may be had—a week or ten days, perhaps. Then come the medium and late white sorts, of which Crosby's and Stowell's Evergreen are types. All these are the regular straight-rowed white sweet corn. Of course, "quality" is to some extent a question of personal taste. For what I consider the top-notch of quality in table corn I look still farther. There are two other types. The "Shoe-peg," in which the kernels are white, but wedged in irregularly as thick as they will go, and tapering in shape, with plump, round ends; and the *colored* sorts with ears of yellow, black or purplish grains. The latter have had a hard time winning their way to the distinction they deserve, on account of the universal prejudice against their color, especially the yellow sorts, which, until they become known, are generally mistaken for field corn; or, by those who think themselves wise in horticultural matters, for good-intentioned sweet corn which, through too close

(*Continued on page* 316)

What You Must Do with the Garden Now

REMARKS ON THE PREPARATION OF THE SOIL, AND SOWING INSTRUCTIONS—TRANSPLANTING SEEDLINGS AND PLANTS—SUGGESTIONS FOR GARDEN ARRANGEMENT AND METHOD

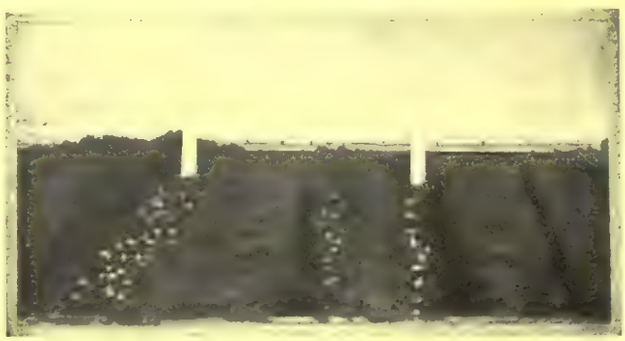
BY F. F. ROCKWELL



It is essential in planting or sowing to make the surface as fine and level as possible before operations

APRIL, with its fleeting sunshine and south winds, marks the advent of the outdoor season, and now is the time to take an inventory of the garden and its needs, if you are looking forward to a profitable year.

First of all, there are the garden patches where the vegetables and annuals grew last year. As soon as the ground is dried out enough so that it will not stick when being plowed up or spaded, have those attended to. If you are not familiar with the details of doing this work, refer to last month's HOUSE AND GARDEN, where you will find the particulars of manures and fertilizers and breaking up the soil for both vegetable and flower garden discussed. That must, of course, be the first step in a great deal of your gardening, and see to it that it is well done. For this job you will probably require help; you cannot get the real pleasure there is in gardening letting your gardener attend to everything except cutting the flowers, any more than you could enjoy a luscious, new cantalope by letting the cook eat it for you.



Depth to plant depends on size of seed. Beans may be set in from two to four inches. The shallow drill on the right is for finer seeds

Take a good look around and pick out the bare earth spots and corners in the grounds, or the beds and borders of perennials, and make a careful mental, or, better still, a penciled, note of them. Along with the note, make a signed and duly executed resolution not to let this spring go by without doing something to improve them. The hardest part of the job is to go back into the house and sit down and order what you see you will need.

There are several classes of things which you will need. Seeds, both vegetable and garden; these will have been, or should have been, ordered. Hardy perennials—a dozen or so of these, including some of the splendid new sorts, or the old favorites which you may not happen to have— will cost little, and will give you some results this year. Now is the time to think of such things as roses, flowering shrubs and bush and cane fruits. If you will only order them now, so that they can be shipped as soon as ready, and in the meantime you have a place ready to plant them, the job will be a very short one.

Of course, the first step towards sowing or planting any of these things is to pick out suitable positions for them. Do not plant things that require full sunshine around at the northwest end of the house, where they will only get the tail-end taste of the day's sunshine, and expect them to do well. On the other hand, do not take some bashful little flower whose natural habit it is to "blush unseen" within some shady copse, and stick it out where it will get the full glare of the noonday sun.

In planting, the place, the time and the variety should be severally adapted. After the preliminary jobs of making out the orders and manuring and spading up the garden and beds, the first thing to do when the proper day for planting *does* finally arrive is to prepare a suitable surface. With this job you can hardly take too much pains; and it is, I think, more frequently on just this point than on any other that the amateur falls down. It should make little difference whether you are preparing to set out cabbage plants or to sow mignonette seed; that the planting or sowing, as the case may be, can be done more easily and thoroughly is only one of the many arguments why you should get the surface just as fine and

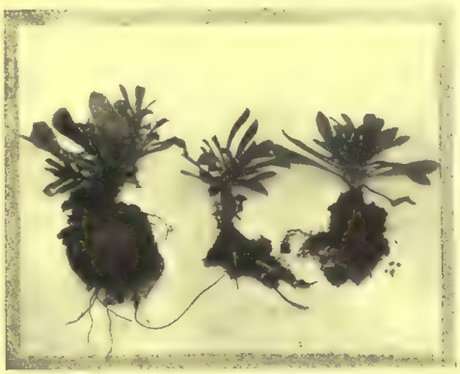


If the earth is packed, make a hole with the dibber large enough to take the ball of earth and roots



A canvas attachment to the lawn mower will save the grass clippings for use as mulch

level as it is possible to make it before beginning operations. Another reason is that the soil will, by reason of the dust-mulch, which will be formed on the surface, most efficiently store up and conserve the surplus moisture from spring rains, which will be needed to keep the plant growing when dry weather comes. And a third reason is that it can be worked either by hand or with garden tools and kept clean much more readily than if it is lumpy and rough—to say nothing of having the garden or bed have that neat, trim appearance a smoothly raked surface imparts to the cabbage patch, as well as the flower bed.



Perennials which grow in clumps should be divided and transplanted in enriched soil



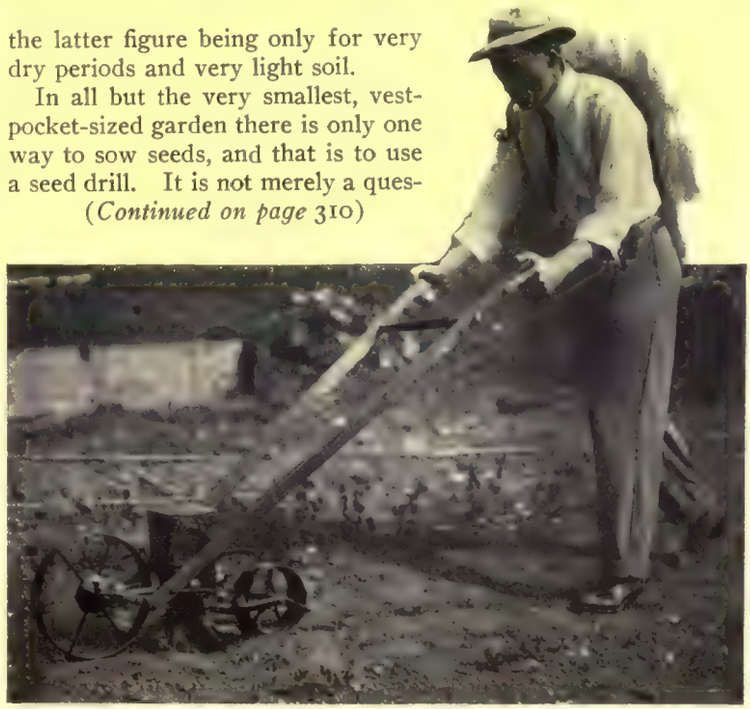
Separate the roots of the seedlings with care when about this size and replant speedily to avoid wilting

Early-spring gardening is, of course, mainly seed sowing. And yet it is remarkable how much time and trouble people will take in hunting up the newest varieties of this or that, while absolutely ignoring the prosaic but vital point of learning to plant properly. As there are, even for the average place, so many things to be planted in the spring that it is impossible to give a list of detailed directions for each one, the best thing we can do is to consider the seeds we are likely to plant, in several groups, and, furthermore, to describe the several different methods of planting. The first distinction which one naturally makes is as to SIZE. The seed of begonia, for instance, is about as fine as red pepper—mere dust—while those of Ricinus (or Castor-oil plant) are as large as good-sized beetles, which, in fact, they very closely resemble. And other vegetable and flower seeds range in almost every conceivable size and shape between these. *Depth to plant* depends in a way upon the size of the seed, and yet no general rule can be followed in all cases. It is much more important to be able to follow the principle involved in planting. In other words, the idea is to place the seeds where there will be warmth and moisture enough to make them germinate; to bring the soil into direct contact with them, so that the tiny embryo tap root, breaking through the shell or skin of the seed, may find itself immediately in congenial surroundings; to have the covering of such a depth and of such a consistency that the tiny sprout that has to make its way up to the light will neither be smothered under too great a depth of soil or be prevented from breaking through by a hard crust. And the corollary of this is, that if you plant seeds in soil that is too wet or too dry or too cold it will either rot or remain dormant, or that if you cover it too loosely in lumpy soil the little rootlet may strike an air space and begin to wither and die or starve before it can begin to absorb nourishment; and if the covering is too deep, or if you plant in such a way or in such soil that a hard crust forms over the seed, the first little leaves may not be able to push up through the surface.

Now, the general rule is to plant to three or four times the seed's diameter. But this general rule must be considered flexible, because seasons and conditions vary. For instance, in planting beets or peas early in the spring the proper conditions of moisture and so forth would probably be found at a quarter of an inch and an inch, respectively, while for the plantings made later in June, after the soil has become dried out more and become warmed up to a greater depth, it might be found that half an inch, or even three-quarters of an inch, for the beets, and two and three inches deep for the peas, was the depth desirable. So it is largely simply a matter of common sense and judgment. Furthermore, as three or four times the diameter of a seed is rather an indefinite system of mensuration, you will probably find it easier to follow these suggestions; plant fine flower seeds and such fine vegetable seeds as celery as shallow as possible, so that the seed is just barely covered with soil, or, better still, with a mixture of leaf mould or chip-dirt and sand, which is light and friable. Onions, carrots, turnips, and other seeds about the same size, which are quite small, should be put from a quarter to half an inch deep, if the soil is in a fairly good condition and not too moist, the latter depth being preferable to the former. Beets, spinach, parsnips and other medium-sized seed can be put one-half to one inch. And seeds the size of peas, beans, corn, and so forth, two to four inches; the latter figure being only for very dry periods and very light soil.

In all but the very smallest, vest-pocket-sized garden there is only one way to sow seeds, and that is to use a seed drill. It is not merely a ques-

(*Continued on page* 310)



The wheel hoe, with a seed drill attachment, will insure straight, even rows and is easy to operate

THE VEGETABLE GARDEN GUIDE

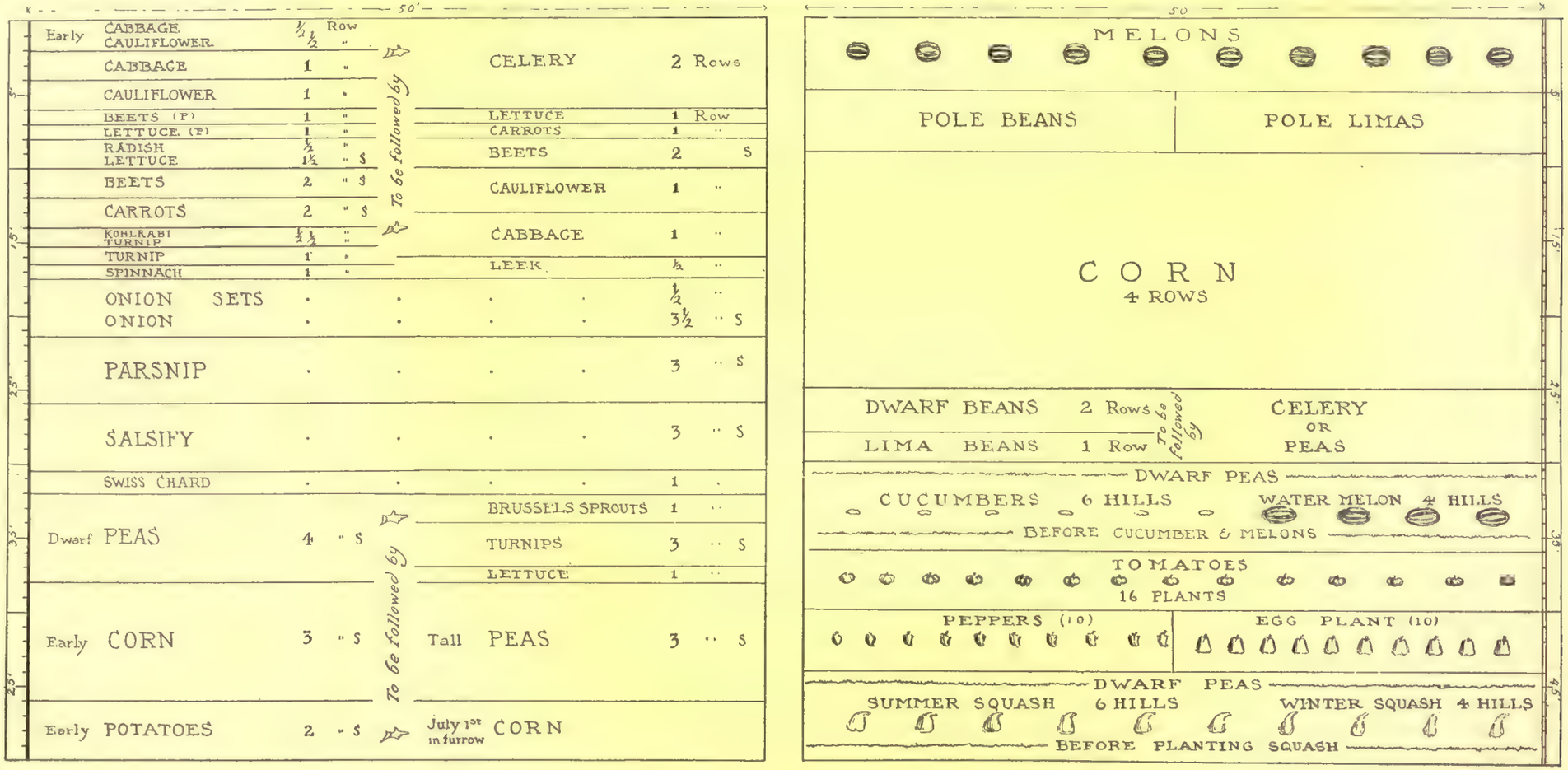
The garden plan below is just the way Mr. Rockwell intends to set out his vegetables to supply his family all season.

This home garden space, about 102 feet long by fifty feet wide, has been divided into two plots fifty feet sc e separated by a path. The scale given is correct, so that it shows the space occupied by a row of each sort. Where early cabbage and cauliflower are mentioned the figure ½ refers to the longitudinal dimension of the row: cabbage 25 feet, cauliflower 25 feet. This is true of the radish and lettuce planting and the kohlrabi-turnip one below. The plants in the right hand of the first plot are succession crops, celery to follow the first rows of cabbage and cauliflower, when they are out of the way. The right-hand plot contains most of the permanent crops and those whose culture is similar. As cucumbers, melons and squashes do not mature till late in the summer, a single row of early dwarf peas is planted either side of the space they are to occupy. The peas will all be out of the way by the time the melons, etc., begin to grow.



Some features of this plan worth noting are: a row of a length fitted to the average small country place and convenient for cultivation; crops where they are most expeditiously and easily attended to, because of like habit or like time of maturity; a succession of plantings to provide for two or three crops of the more important vegetables.

Bear in mind the series now appearing in HOUSE & GARDEN called "Quality Crops for the Home." This appeared first in January and gives the latest full information about the named and tested vegetable varieties.





PLANTING GUIDE



ROOT CROPS

VEGETABLE.	CLASS.	SEEDS OR PLANTS FOR 50 FT. OF ROW.	DAYS TO MATURE.	NUMBER PLANTINGS.	NUMBER VARIETIES.	DEPTH TO SOW.	ROWS APART.	PLANTS ASUNDER.
BEET	A D E	1 oz.	60—80	3	2	½–1½	12–15 in.	3–4
CARROT	C	¼–½ oz.	60–90	3	2	½ in.	12–15 in.	2–3
KOHLRABI	C	¼ oz.	60–80	3	..	½ in.	15–18 in.	4–6
LEEK	A B	¼ oz.	120–140	1	..	½ in.	15 in.	2–4
ONION	A B	¼–½ oz.	120–175	1	2	½ in.	12–15 in.	2–3
PARSNIP	B	¼ oz.	150–175	..	..	½–1 in.	18 in.	3–5
POTATO	B E	1 peck	60–100	1	2	4–5 in.	2 ft.-2½ ft.	12–14
RADISH	C	½ oz.	25– 50	6	3	½ in.	12 in.	2–3
SALSIFY	B	¼ oz.	125–150	1	..	½–1 in.	18 in.	2–3
TURNIP	C	¼ oz.	60– 90	3	2	¼–½ in.	15 in.	3–5

Sow rather thickly, in drills, on finely-prepared, well-enriched soil. First sowings should be made rather shallower, and late sowing in dry soil deeper than the average depths. Keep clean from weeds and thin out, *while small*, to proper distances. All these, except potatoes, may be planted as early as the ground can be properly prepared. Potatoes cut to one or two "eyes"—one if the soil is fine and rich—plant from mid-April to mid-June. First plantings of all in *Class C* should be rather small; last plantings large enough to allow for winter supply.

LEAF CROPS

BROCCOLI, P.	A E	25–35	50– 90	1	..	½ in.	2 ft.	18
BORECOLE, P.	A E	25–35	60–100	1	..	½ in.	2½ ft.	2 ft.
BRUSSELS SPROUTS.	A C E	25–35	120–150	2	..	½ in.	2 ft.	18
CABBAGE, P.	A C E	25–35	60– 90	2	3	½ in.	2–2½ ft.	18–2
CAULIFLOWER, P.	A C E	25–35	50– 80	2	2	½ in.	2 ft.	18
CELERY	A E	100	125–150	1	2	½ in.	3-4 ft.	6
ENDIVE	A E	¼ oz.	75–100	1	.	½ in.	12-15 in.	12
LETTUCE, P.	A C E	50	40–.75	1	2		12–18	12
LETTUCE	C E	¼ oz.	75–125	3	3	¼ in.	12-18 in.	6–12
PARSLEY	B	½ oz.	90–100	1	..	¼–½ in.	12 in.	4– 6
SPINACH	C E	½–1 oz.	60– 75	2	2	½–2 in.	18 in.	3– 6
SWISS CHARD	B E	1 oz.	50– 60	1	..	½–2 in.	18 in.	5–10

All of these may be set out or planted as soon in the spring as danger from hard frosts is over (almost as soon as the ground can be worked), with the exception of celery, for first crop of which start seed about March 1 and set out June 1 to 15. Lettuce and cauliflower will not stand quite such severe weather as will cabbage, and usually follow a few days later if the latter has been set extremely early. Special manuring or fertilizing in the hill is often given, unless the soil is very rich; and a light top dressing with nitrate of soda a week or two after plants are set out or thinned is beneficial.

FRUIT CROPS

BEAN (dwarf)	C	1 pt.	45– 75	2	2	2 in.	18–24 in.	2– 4
BEAN (lima)	B	1 pkt.	70–100	1	..	2 in.	3–4 ft.	3 ft. (h)
BEAN (pole)	B	1 pkt.	60–100	1	..	2 in.	3 4 ft.	3 ft. (h)
CORN	B E	1 pkt.	60– 80	2	3	2 in.	3–4 ft.	3 ft. (h)
CUCUMBER	A B	1 pkt.	60– 75	1	..	1 in.	4 ft.	4 ft. (h)
EGG-PLANT, P.	A B	25	50– 75	1	..		2½ ft.	2 ft.
MELON (musk)	A B	1 pkt.	90–120	1	2	1 in.	4– 6 ft.	4–6 ft. (h)
MELON (water)	B	1 pkt.	100–125	1	..	1 in.	6– 8 ft.	6–8 ft. (h)
OKRA	B	½ oz.	90–100	1	.	½–1 in.	3 ft.	2 ft.
PEAS	C D E	1 pt.	60– 80	3	2	2 3 in.	3–5 ft.	2–4
PEPPER, P.	A B	25	40– 60	1	2		2½ ft.	2 ft.
PUMPKIN, P.	B	¼ oz.	100–125	1	..	1 1½ ft.	6–8 ft.	6–8 ft. (h)
SQUASH	B	¼ oz.	60–100	1	2	1–1½ ft.	4–8 ft.	4–8 ft. (h)
TOMATO, P.	A B	25–20	40– 60	1	..	3 4 ft.	3 4 ft.	2 –3 ft.

All of these, with the exception of peas, are *warm-weather* plants, and nothing is gained by hurrying them into the ground before conditions are right. On the other hand, having to get a late start anyway, they should be sown or planted without delay when conditions are favorable. This will be usually early May for dwarf beans and *early* corn; mid-May for pole-beans and other *seeds*, and late May for *plants*—tomatoes, etc. Early peas (smooth) should be planted as soon as the ground can be worked, and sugar peas (wrinkled) a week to two weeks later. All but peas and beans are heavy feeders and benefited by especially prepared hills, and applications of nitrate of soda during early stages of growth. (h) Implies distance between hills.

EXPLANATION

Amount of Seed for 50-Foot Row.—This is, of course, only approximate. Seeds in drills should be sown several times as thick as the *plants* are to stand after thinning, as indicated in the column "distance apart in rows." In hills, from five to fifteen seeds are planted, thinning out to three to five plants when well started. (P) Stands for plants.

Number of Days to Mature.—Depends upon both variety and growing conditions, usually a little longer than the first set of figures in the column.

Number of Plantings and Number of Varieties.—These are the *minimum* numbers required for a fair succession of crops in a small garden. In larger gardens both may be increased to advantage; but it is a great mistake to use too many varieties.

Class A.- Crops that may advantageously be partly grown, in frames or seed-bed out of doors, before being transplanted to garden.

Class B.—Crops that occupy the ground for the whole or the greater part of the season.

Class C.—Crops that should be sown several times a season to insure a continuous supply.

Class D.—Crops which may be cleared away in time to sow or plant something else. For very late plantings early varieties should be used.

Class E. Crops which may be sown or planted on the ground where early crops have been grown and cleared off.



Lupine, Canterbury bells and the tall spires of the larkspur are well arranged in the borders along this grass path for a scheme where blue predominates

Choosing Flowers for Their Color

II—A TRUE GUIDE TO THE BLUE FLOWERS, WITH DIRECTIONS FOR THEIR USE IN THE GARDEN EFFECTS WITH YELLOWS AND GOLDS

By Mary Youngs

THE difficulty of obtaining, even from the most reputable dealers, flowers of the exact hue desired for use in a given color scheme leads the distraught gardener to pray for a color standard, and to set forth in the meantime for the benefit of other strugglers a few notes on the differentiation of color as observed in her own garden. These articles, except the one on red, which went to press before the book was received, have been revised with the help of Dr. Robert Ridgway's invaluable—and blessedly simple—"Color Standards and Nomenclature." Most catalogue makers believe in the old song: "The rose is red, the violets *blue,*" for they list as "blue" or "azure" flowers decidedly purple in hue, as well as the pure blues, which last are few and far between. *Anchusa italica* var. "Dropmore" comes very near being a pure spectrum blue, though the buds are pink or lilac; so does the biennial form (*A. capensis*), which is a little paler in tone and not so tall. They are both fine, clear colors. That earliest spring blossom, *Scilla libirica,* is a lovely clear blue, a little darker than the spectrum tone. Later in the season, with an inconspicuous flower of clearest blue, comes the old-fashioned tradescantia, or day flower, but the newer variety has a larger blossom of a deep blue violet. A beautiful pale blue, coming in late April or early May, is *Mertensia Virginica;* the buds of this are pink, but the flower a very clear pale cerulean blue, and the foliage an unusually bright green. The forget-me-nots, too, are all clear true blues of different tones; some much darker than others, but all good. *Myosotis palustris semperflorens* is perhaps the best for an informal border, as it blooms a long time and is very hardy; it is a light cerulean blue.

Not all delphiniums are a true blue by any means; in fact, nearly all the darker ones verge on violet, except *D. chinensis,* which

is luminous spectrum blue, but the paler varieties, and especially belladonna and cœlestinum, are lovely and a very clear color, though a trifle grayer than the pale spectrum tone—a sort of Venetian blue. *Salira azurea* rejoices in a color name all to itself—"salira blue"—a tint paler than the spectrum blue, and with a silvery effect. Chicory has much the same hue. Then come the charming gray-blues of polemonium and caryopteris—awful names, but delightful blossoms, both! The polemonium is an early border plant, graceful and delicate, of the soft, gray blue known as "Chapman's," while the caryopteris, or blue spirea, much the same in tone, but with a silvery quality, is an exquisite September-blooming plant. By some dealers it is listed as a shrub.

Most of the lobelias—both perennial and annual—are tones of ultramarine, and so is the interesting little red-stemmed *Plumbago sarpentæ,* which makes a good edging plant, as its foliage is almost evergreen. The lighter-toned annual larkspurs and the quaint love-in-a-mist are good, clear pale blues; browallia I have not seen, but have heard it vouched for; and the "thoroughly satisfactory" blue of the cornflower everyone knows—although, by the way, it is *not* the color called "cornflower blue," which is much redder than the flower, and paler.

Blue violets and violet blues, usually listed as blue, include such attractive and useful flowers as iris, "blue" *viola cornuta,* monkshood and a number of others which are charming in the border, but which combine very badly with the true blues. Two of the most commonly used so-called "blue" iris are *I. pallida Dalmatica,* which is a lovely soft blue-violet; and *I. Germanica "Mme. Chereau,"* white, frilled with a deeper and somewhat harsher blue-violet. *Aqueligia cærulea,* listed as sky—or azure—blue, is a light-grayish violet-blue which harmonizes well with "Mme. Chereau."

An attractive flower which I have seen listed as "bright blue" is *Stokesia cyanea,* the "cornflower aster;" it is really a campanula blue, which is slightly tinged with grayish lavender. This is practically the color of most the paler "blue" campanulæ, although perhaps a little pinker than the pretty, low-growing *C. carpatica,* which makes such a charming edging or rock-garden plant. Closer to a true blue, but still a little redder than the pure hue, are the blue *Viola cornuta,* which is of the delicate lavender hue called flax-flower blue, and the blue Supine, which is deeper in tone, being nearer the color known as ultramarine ash. The platycodon, or Chinese bellflower, is still deeper, a violaceous, or grayish-violet blue. *Aconitum autumnale,* or monkshood and veronica, are a hyacinth blue, almost violet, and the so-called blues among



In a garden of formal arrangement a bed all of one color may form part of a composition with its neighbors, each of a single different shade



Here are exceedingly good phloxes of the paler tones of violet and purple; here they have followed an iris of complementary hue

the lovely race of Michaelmas daisies range from the palest grayish-violet blue to a bright, clear violet.

Among the annuals, the useful ageratum is a little inclined to the lavender side of the scale; in fact, one variety has a decidedly pink hue. The so-called "azure" China asters are a pale grayish violet-blue, and I have even seen heliotrope, the bluest of which is a royal purple, advised as part of a "blue border." Suggested uses for the pure blues in combination are as follows:

1st. Spectrum and ultramarine blues, with clear or soft yellow, and creamy white.

2d. Clear pale blues with clear rose pinks, cream or blue-white, or pale yellows.

3rd. Gray-blues with pale, creamy yellow, pale rose pink, or, if very soft and gray, as the blue spirea, with bright flame pink or pure, clear orange.

4th. No clear blue near a violet blue, even if so advised by a "blue borderer"!

Leaving the borderland to revel among the true violets and purples, let us first note that the *violet* of the spectrum is the hue which most of us call purple, and that *purple* is much redder and more nearly approaching what we usually consider as magenta, which, in its turn, is grayer and duller than we are in the habit of regarding it.

The crocus "Royal Purple" is a fine clear violet, and probably the earliest. Next in point of season comes the deeper and slightly redder violet velvet of *Viola cornuta* "Purple Queen," and the hyacinths of depest and palest clear violet.

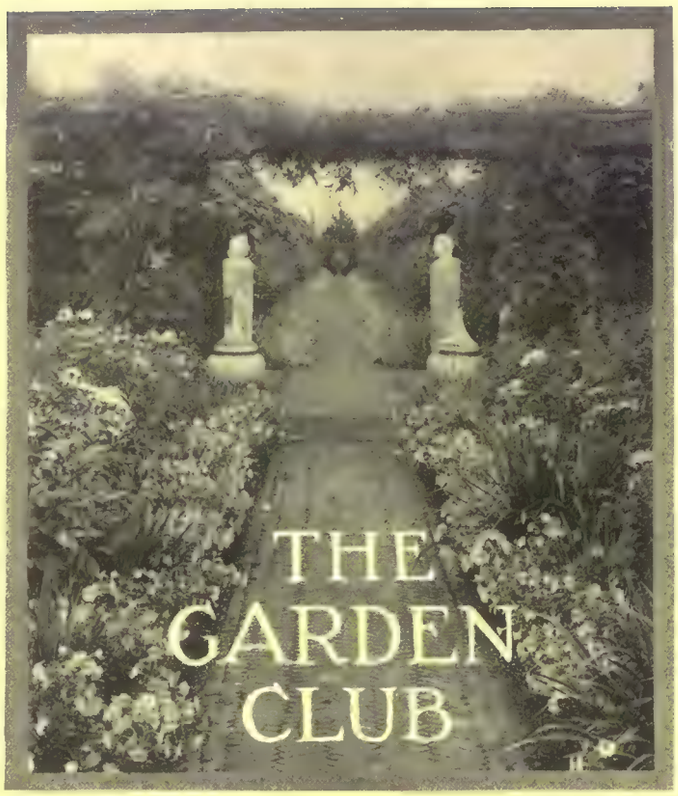
In describing tulips it is exceedingly difficult to name the color accurately, because they are nearly all "overlaid," or "flushed" with different tones, but one must consider the effect in mass. There are but few early purple and violet ones, but there are some lovely Darwins, both pale and deep. "Dal Ongarno" is described by the dealer as "pale lavender violet—almost a blue—in certain lights;" this is darker in mass than one might suppose. "Purple Perfection" is a very deep violet; "Velvet King" is redder and a good color; "The Sultan" (synonym "Josef Israels") is described as "rich maroon black" of fine form; "Phillipe de Commines" is a "velvety dark purple," and "Zulu" is "a rich velvety purple-black," the best and most expensive here given.

There are two very dark columbines of the *vulgaris* type, one a dark bluish violet, and one a redder prune-purple.

An exquisite early pale blue-violet is the delicate *Phlox divaricata;* this has a faint pink flush which softens the color wonder-

(*Continued on page* 309)







EDITOR'S NOTE: *The garden club is a great factor in neighborhood betterment. Here is a true story of the work of a certain such club and its accomplishments taken from the diary of one of its members. What this club actually did should be a stimulus to all who love gardens and a guide to the ways and means of improving our towns and villages. The first and second chapters of the record of the club appeared in the February and March issues respectively.*

THIS month we met at my house—and I was glad it was a soggy afternoon, so no one could go prospecting around to size up my bulbs. The bulb show comes as a special evening meeting later in the month—for everyone felt this would insure its being a greater success. And I want to spring my checkered lilies—*Fritillaria meleagris*—as a novelty, and enter for a special prize; so, of course I do not want anyone to suspect I have them at all. I naturalized them last fall, a hundred strong, on the 12- by 40-foot space where the ground falls gently at the east of the garden to the clump of shadbush that were somehow overlooked—thank the Fates!—when this land was "developed." We do not mow that grass; it is rather moist ground, and there is partial shade there, which the bulb books say these things like. I have never seen one of the flowers—took them on faith!—even though they are so "common in English meadows;" and I do not think many of the Club have, either. They look very promising for the date of the show, if I am any judge, and I am correspondingly excited at the prospect of producing a small sensation. For, if they fulfil their promise, I shall be able to send an imposing mass of the queer blooms.

Helen Brinkerly will get the first prize, of course. Everyone who knows about her garden concedes that, for she started out to try everything in the catalogues last fall, and in just daffodils and jonquils alone she has over fifty varieties. Then, she has every kind of hyacinth that ever came out of Holland—not quite, but almost—and tulips by scores; and, really, every kind of bulb that will grow here out of doors, in lots of from one to three or four. Of course, her little bulb garden is full—but I don't believe she has a checkered lily. Of naturalizing, she has done none, for her place is not suited to it; and these lilies are at their best, they say, only when naturalized.

This program committee is a worked-to-the-bone set of unfortunates; there is no doubt about that! But I would not give up the job for a good deal—for it is going to mean a wonderfully varied experience providing the programs, judging by our beginning. We made up our minds that there was just one person in this locality whom we wanted to have come and talk to us about making seedbeds; but he was the very last person that it seemed thinkable would come. But Miss Lucy and Mrs. Hal Addicks—Polly Story that was—and I went touring one day last month in the Addicks machine; and we toured off up the Drift Road, on and on until we were almost to the State line; and then we turned in boldly at his gates—the gates of "Stone Acres."

I was simply petrified at our temerity—but, as Polly Addicks said, we would never even see this man if we wrote or 'phoned him in advance that we were coming. And there were three of us, she reminded me, which ought to make us equal to whatever the occasion might turn out to be.

Happily for us, the master of "Stone Acres" has a sense of humor—for we nearly ran him down on his own driveway while we were debating loudly—the driveway runs through a rocky, wild, half-mile of woods, and we never dreamed anyone was about—as to who should be spokeswoman, and what she should say, and who should ring at his door. Mrs. Addicks was running the car herself, for we wanted to be without witnesses to our meeting and interview with this ogre-hermit combination, which common belief held the master of "Stone Acres" to be; and she was so startled at her escape and his that she was furious with him, and proceeded to tell him what she thought of the carelessness which led him to step out suddenly into the road from a rocky cut—evidently the end of a path leading off to somewhere—and to scold him roundly and generally. We didn't know then, and have never found out since, whether she knew it was he or thought it one of his men, for she is really quite touchy about it—but I suspect she thought it one of his men, though there is no telling, seeing it was Polly.

He took it very nicely, with a quizzical look—and apologized! And then Miss Lucy rescued us and him and the situation. "We were on our way to see you, I think," said she, as calm and sweet as ever, "for I believe this is Mr. Parke Gladden—is it not?"

It was; and whether it was Mrs. Addicks' severity or Miss Lucy's sweetness, or the two in combination, I do not know, but he was evidently tamed instantly and completely—if ever he had been wild. He was simply lovely to us, and we had really very little difficulty in getting his promise to come and give the seedbed talk this month; and he showed us about over a great deal of the farm, which is wonderful, of course.

All of this was really an achievement, for it is said that he has not gone outside the boundaries of "Stone Acres" more than half a dozen times since he brought the wreck of his mad wife, and of their two lives, to its seclusion nearly seventeen years ago. And he has not received half a dozen visitors in that time, either, so they say. Yet he is a perfectly charming man; and the fame of the "Stone Acre" products is a great deal more than State wide. I do not know how many valuable hybrids he has originated, nor how many fruits and vegetables and flowers bear his, or the farm's, name (of course, his name is not *really* Gladden, nor is the farm "Stone Acres"), but I know they are many.

We are all making our seedbeds exactly as he told us—or, at least we hope and think we are. (I notice they are not all being made the same—which is interesting, considering this hope and belief!) Particularly, he dwelt upon the need for a sturdy, compact growth in seedlings, with a strong root system. I had never thought but that rich soil was as helpful to them as to anything else; but this is altogether wrong, it seems—and I can see why, of course. For rich soil stimulates them to grow too fast, and they spin up and get weak and top-heavy on it—whereas masses of root and strong, well-balanced top is the standard to be taken and worked for.

Once get the right spot for a seedbed, he told us, and one may go on using it year after year, indefinitely—for, of course, seedlings take little from the soil. And, once the soil is well prepared, it is a great waste to turn the space into other uses, for its preparation is a matter of great care and considerable labor, according to the formula he gave us.

The ground is to be well drained, but not on a slope—and it does not matter greatly what the natural soil is, for proper soil may be substituted without much trouble or expense, unless the thing is all being done on a large scale. The general depth of the bed proper—of the soil substituted therefor, if substitution is necessary—is only four inches. And he recommended that we make the space narrow, suggesting a maximum width of two feet. The length is dependent, of course, upon the quantity one wishes to raise.

We are to have the space spaded two or three times over, and every stone picked out to the four-inch depth or a little more, and the soil worked over to the last degree of mellowness and gentleness (this was his word for it, and I think it delightfully expressive), providing it is earth that will so work. He gave us the usual test of crunching a handful of it together and then opening the hand to see if it would fall apart. If it does not, sand can be added sometimes, to get the texture right, with satisfactory results. But if it cannot—if the earth is very heavy and stiff and unyielding—we are to have about two inches taken out; and then we are to fill this excavation with the four inches of soil prepared by mixing any reasonably good top soil, screened free of stones, with half its quantity of woods humus—which is the rich dirt under the leaves in a woods—and, adding to this enough sharp, clean sand to make it soft and friable—or "gentle." After this soil is in place, a sod margin is to be laid on the slant up from the general ground level to the level of the surface of the bed; this to hold the earth secure, as well as to give a pleasing, neat finish.



Right alongside the seedbed he advises the transplanting beds—which were quite a new idea to all of us. I have always transplanted tiny plants pretty nearly helter-skelter, as I could find a space, if their permanent locations were not ready for them—and thought that there was no other way of doing; but this is not efficiency in garden practice, it seems.

Instead, we must move the seedlings from their first home into a second temporary one that has been prepared in exactly the same way as the seedbed, except that its soil is six inches deep instead of four, and has well-rotted manure mixed into it in place of the woods humus. Many things he transplants from the seedbed and then transplants twice again from one transplanting bed to another to secure the highly desired dense system of fibrous roots. This means four times shifting before the plants are finally settled; and, as every shift means much new root growth, and as new root growth means increase in feeding capacity, and this means greater strength in the plant, it is easy to see what one of the secrets of "Stone Acres'" superior products is.

Another thing which he was very emphatic about was not sowing seed too deep; and he reminded us in this connection that Nature only scatters it upon the surface of the ground, or into little crannies or "wrinkles" of the earth. Even those seeds which she covers are covered lightly with just leaves and windblowings, generally; and the little plants have really almost no effort to make to pierce their way up to light and air. Just deep enough to "keep them dark and evenly moist when carefully watched," is his rule—which seems elastic, indeed, and radical. But I am not going to plant anything to more than twice its depth this year, and only sprinkle the earth over them at that.

Watching the seedbed is as important as seeding it, evidently—if one is to have plants; and watching, he was particular to say, did not consist in giving it a glimpse over once a day. Three times a day in dry weather, and twice a day in cloudy, it should be visited; for an *even* degree of moisture all the time is its absolute essential—not a wetting down and then a drying out.

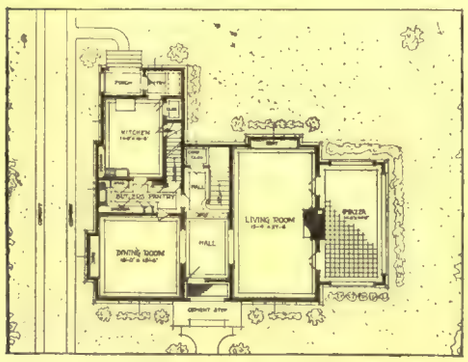
Lath screens, elevated on twelve-inch legs, are to be kept in place all of the time on sunny days, and mostly all of the time in any case, for they protect the bed from rain, as well as sun, which beats down little plants dreadfully, as I very well know from my experience trying to raise phlox last summer. The laths are laid their own width apart on frames two by three feet in size, these frames being of strips seven-eighths of an inch thick and one and one-quarter inches wide. We do not cut the lath, although it is laid across the shortest dimension of the frame; this leaves a six-inch projection on each side, so even the slanting sun rays cannot reach the sides of the beds. And I am planning to have only half of my frames with legs; these can then be set almost three feet apart, and the legless ones laid on them between, to fill the gaps. Everyone is making these now, and lath will go up, I expect—for we are each to have enough for seedbed and transplanting beds. And they are very useful to set above plants newly transplanted into the garden, too, so I may have a few extra made, just for good measure.



Of seedbed space one does not need a great amount, of course—I am having only six feet in length—but of transplanting beds I am having twenty feet prepared, divided into two ten-foot beds on each side of the seed-bed.



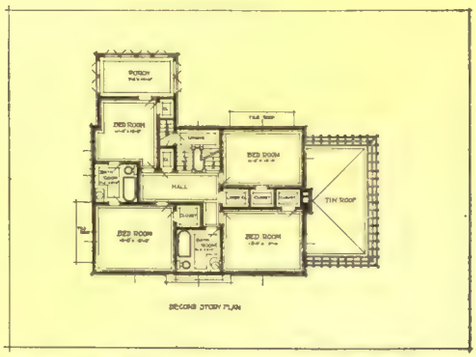
The front elevation of this house is devoid of all ornamentation, but the window box, the structural utilities, the copper leaders and the shutters are extremely decorative, and the impression of the whole is of pleasing interest. The grass-cement-bordered garage drive is worth emulation



Economy in building is achieved by the single chimney; the kitchen is equipped for gas

THE HOME OF MR. HENRY S. BROPHY MAPLEWOOD, N. J.

B. Halsted Shepard, architect



Though a moderate-sized house, there are full conveniences for a family of five



The large living-room serves the more formal needs of the family and is suitably furnished and equipped

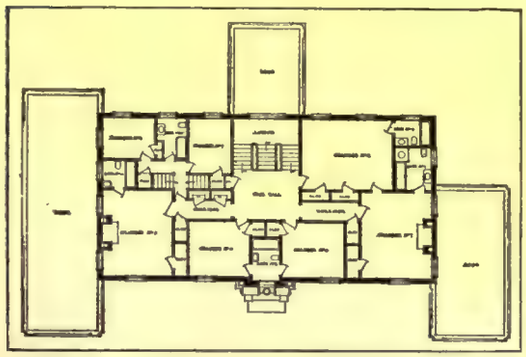


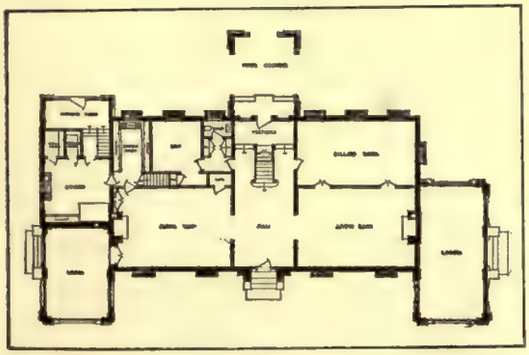
For the "extra room" so necessary in a house the enclosed and heated porch is admirable; the cheerful chintz-covered wicker ware is filling here



There are a number of sources of decoration in this façade used with an exceedingly fine sense of color and proportion and productive of a rich dignity. The loggia of this sort is supplanting the columned porch, its services are greater

THE RESIDENCE OF MR. GAGE E. TARBELL, GARDEN CITY, L. I. *Oswald C. Hering, architect*





Room balances room in this exceedingly symmetrical plan; each chamber has access to a bath



Receiving its keynote from the lattice outdoors, this loggia is frescoed to emulate a green lattice. The treatment is effective for an enclosed porch and lends a cheeriness without the heaviness of real wood



Inside the House

Timely Suggestions and Answers to Correspondents



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

Bath Room Fittings

THE combination of porcelain and nickel has been generally considered most satisfactory for bath-room fittings, and towel racks, sponge holders, soap dishes and other articles of nickel that match the shining pipes and faucets, will make as attractive a looking bathroom as one could possibly wish. A new variety of bathroom ware has recently been introduced, however, that helps to solve the everlasting problem of how to simplify housework by the ease with which it is kept clean. It is a white enamel much like any ordinary enamel ware in appearance, but the foundation is brass, and the enamel is applied by a special process that makes it as indestructible as the brass itself. It is quickly and easily cleaned by wiping off with a damp cloth, and there is no possibility of its cracking or peeling as some enamel has a way of doing.

All of the necessary small articles are made of it, including soap dishes of various sorts, glass holders, with toothbrush racks, hooks of different sizes, towel racks and shelves.

After all the fixtures in one's bathroom are entirely a matter of personal taste, and whether racks, shelves, holders and other accessories are of nickel, enamel or glass depends on the individual householder. Glass shelves are considered most satisfactory by many persons, for they are, without doubt, sanitary and easily cleaned, while the glass towel racks, particularly the newer ones that are finished with handsome cut-glass balls, are really quite ornamental. Towel racks of opal glass, with white enamel ends and brackets, are to be had for the all-white bathroom, and white celluloid holders for bottles also add to its attractions.

A new piece that has various uses is quite good looking and especially serviceable where space is limited, as it is apt to be, even in the most carefully planned houses. This is a glass shelf with a nickel holder for a tumbler at either end and a nickel towel rack underneath, all in one piece and occupying little wall space, while another space saver is the narrow glass shelf with metal fender for holding a set of labeled bottles of uniform size.

Fittings for the tub include everything that could possibly contribute to the comfort of the user. There are the non-slip mats of corrugated rubber to be placed on the bottom of the tub that are quite a necessity with the big, slippery porcelain tubs so generally used; the white enamel seats with curved ends that fit over the sides of the tub are a decided comfort in



The new white enamel fittings will not crack or peel and are easily cleaned

taking a foot bath, and there are even head rests for lazy people, made in the same way as the tub seats, but in place of the wooden seat there is a broad band of webbing that supports the head while lying in the tub. Soap racks of various sizes and shapes in nickel or enamel, and nickel sponge racks of generous size are made with curved handles that fasten over the side of the tub, but quite the newest accessory of this sort is a soap dish made of celluloid that floats on the water, and is consequently always within reach.

There are all sorts of shower-bath arrangements, from the elaborately fitted up shower that is a separate feature of the bathroom, with its stationary overhead sprinkler, porcelain base and rubber curtain, to the newest and smallest contrivance that has a sprinkler only about three inches in diameter attached to a holder about six inches long. This not only supplies extra force of the water to a small surface, but makes it much easier to handle, and there is an extra piece, made of rubber and perforated, that slips on over the sprinkler for use in massage.

The mirror is, of course, an important feature of the bathroom, and for the comfort of the man who shaves it should be in a good light. In many well arranged bathrooms there is a medicine chest or cabinet built into the wall, with an excellent mirror in the door, which opens in such a position that the light is reflected to the best advantage. Separate mirrors in frames of white enamel can be had in all sizes, and are doubtless most generally used, while for the bathroom that has only nickel fittings there are handsome oval mirrors with beveled edges and no frames, but substantial racks at the back, by which they are hung.

Mirrors of good size, with extension holders that can be fastened to the window frame, are ideal for shaving, and really a necessity when the stationary mirror is not in a satisfactory light, but quite the most ingenious shaving mirror is circular in shape, with an easel back, and has a small electric bulb inserted near the lower edge. The bulb is protected by opaque glass which keeps the glare out of the eyes, and yet an even, steady light is thrown on one's face and reflected thus in the mirror.

In the way of actual furniture, a well-equipped bathroom should have at least a white enamel chair, or if, through lack of space or for any other reason, a chair is not available, there are stools finished in white enamel that are quite as useful. These stools are, as a usual thing, provided with cork tips, making them noiseless when moved about on the tiled floor.

An excellent chair for a bathroom that has but little floor space is made to serve as a polishing stand as well. The seat of the chair lifts up, showing various

brushes and polishers in racks on the underside, and a small compartment in which bottles and brushes of blacking can be stowed away. The chair may be had in either oak or white enamel.

A Rug Fastener and Stretcher

THE satisfaction of having a rug "stay put" and neither slide all over the floor nor turn up at the corners is denied to the average householder, because he has failed to find a fastener that is unobtrusive and will not harm the rug. A neat and effective method of holding the rug to the floor, without damage to either, is found in a simple device, with two curved and pointed fingers, which is fastened to the floor by two tiny nails. As many of these little fasteners—they measure not much more than an inch in length and lie quite flat—as are needed to hold the rug are tacked to the floor about an inch inside the edge of the rug. As the fabric is placed over them, the curved fingers clutch the warp, and gentle pressure on top clamps the fastener, stretches the rug, presses it flat and holds it in place. The fastener is as good for carpets and runners as for rugs.

For Burning Rubbish

THE disposition of rubbish is a matter for serious consideration both from the standpoint of safety from fire and sanitation. Especially is this true in localities where there is no municipal collection of refuse.

The zeal of the housewife in disposing of waste paper and other trash by making a bonfire of them has often been responsible for a disastrous house fire. The up-to-date householder disposes of all burnable trash in a rubbish burner, which eliminates the danger of conflagration and makes one entirely independent of the call of the waste-paper man. The burning of large quantities of paper and trash in a stove or furnace causes an overheating of the pipes; also quite likely to result disastrously. An approved style of rubbish burner is a large covered basket made of galvanized wire, with heavy iron supports that have been dipped in asphaltum,—a strong receptacle that should last a lifetime. The mesh of the wire is fine, so that it retains the papers till burned out. The rubbish burner may be lighted in any place where there is an escape for the smoke, and is specially good for outdoor use. The prices range, according to size and strength of basket, from two to ten dollars.



All the necessary small fittings are made of the new white enamel



The towel rack is of opal glass, with white enamel ends and brackets



Combination enameled tooth-brush rack and soap dish

Haircloth Upholstery

HAIRCLOTH is again used as an upholstery fabric, but instead of the black, shiny variety that was thoroughly uncomfortable and hideously ugly, it comes in a number of different colors and designs and in a much less clumsy weave. Some of the pieces are so effective that it is almost impossible to associate them in any way with the old-fashioned variety. Conventionalized figures on self-tone grounds are shown in a number of good shades, and there are also striped patterns in which several colors are perfectly blended. Excellent reproductions of old chairs, including Chippendale and Hepplewhite models, may be had with the seats upholstered in this old-new material, and the effect is pleasing, to say the least.

A Cream and Sugar Holder

A QUAINT little novelty for the breakfast tray or the individual tea-tray is a combination cream pitcher and sugar holder of silver. The little pitcher is made on perfectly plain lines, and is quite like an ordinary cream pitcher, except that there is a little compartment inserted between the back of the pitcher and the handle that is just the size of the regulation lump of sugar. It will hold six or seven lumps, and the pitcher holds sufficient cream for several cups of tea or coffee, so that it need be necessarily limited to individual use.

A Convenient Workstand

FOR the room in which a work-stand is a necessary and much-used article there is a most satisfactory little stand of mahogany that is extremely light-weight and easy to handle. The work-basket proper is not unlike an ordinary silver basket in size and shape, and has a cane bottom with mahogany sides and handle over the top, and stands on a framework about three feet high. A considerable amount of work can be accommodated, and yet the whole piece is small and quite inconspicuous, even in a limited space.

New Telephone Stand

SO serviceable and popular have the little telephone stands proved themselves that they are now being made in willow for summer use. The design is practically the same as in the wooden ones, with the shelf for the directory, telephone bracket and small chair that slips under the table, and the stands may be bought stained in any desired shade, as well as in the natural willow.

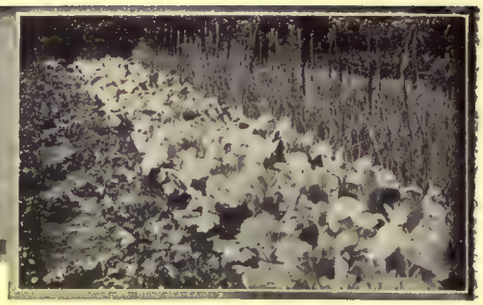


The enameled bottles, with label attached, are sanitary and their contents unmistakable



Garden Suggestions and Queries

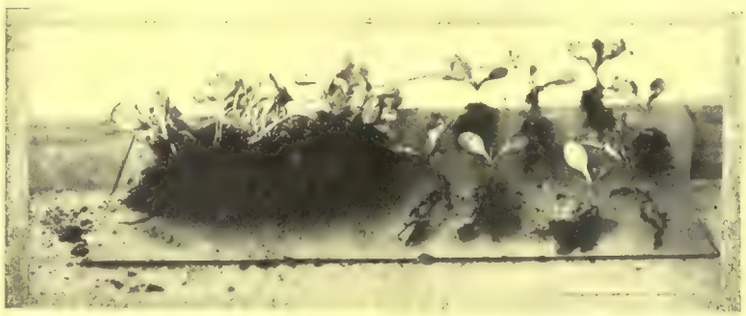
The Vegetable Garden



CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening* and *Gardening Indoors and Under Glass*

Transplanting Seedlings

ONE little job that keeps turning up through the spring months is the transplanting, or "pricking off," of seedlings of various flowers and vegetables. This should be done as soon as they are large enough, usually as soon as they begin to show the second or third true leaf, and in any case before they begin to crowd each other and grow lean and lanky. Water the seed flats thoroughly the day before you expect to transplant, so so that the soil will be in the best condition, not wet enough to stick, or dry enough to crumble off the roots. Take the plants out carefully, a small chunk of a dozen or two at a time, and then carefully pull them apart, disturbing the roots as little as possible. Have other flats, or a place in the hotbed, coldframe or garden, ready to receive them. In the former case a layer of well-rotted manure in the bottom of the flat, under the soil, is advisable. In the latter the soil should be very fine and smooth, with no lumps. The little seedlings are usually set about two inches apart each way; at least enough space must be given to allow them plenty of room to grow without crowding each other closely. If the top leaves or the roots are long, it is well to trim them back, quite severely if necessary, before transplanting. Mark the rows out first, so you will get them straight, and then, with the forefinger or a small pointed stick, make a hole just large enough to take the little ball of earth and roots and a half or more of the stem of the plant. Drop it into place, and with the first fingers and thumb of each hand press the earth closely about it, so that it will stand up firmly by itself just as if it had grown there. Four to eight dozen plants are usually put in an ordinary cracker-box flat. They should be lightly watered and kept shaded from the sun for two or three days after transplanting, until they have "taken root."



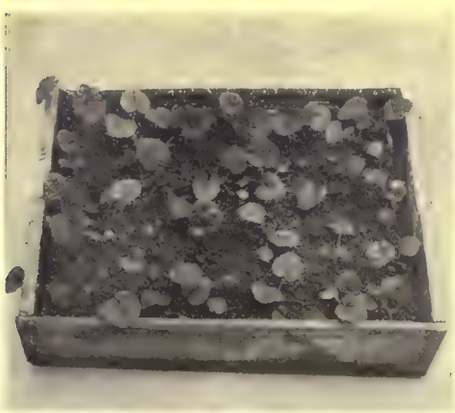
"Take the plants out gently, a small clump at a time, and then separate them without injuring the roots"

Transplanting to pots is much the same process. Tomatoes, peppers and eggplants, after the second transplanting, should be put in individual pots, three or three and a half, or even four, inch. Use a rich compost or put a little manure in the bottom of each pot. One of the mistakes most frequently made in "potting off" is to put small plants in too large pots. It is much better to transplant small plants to a flat first. Where a small plant must be put in a pot too big for it, set it *near one edge,* rather than in the center. Most annuals and perennials in pots, whether intended to flower in the pots or to be set out in the garden, will be improved by pinching back the main shoot, when they grow up to a single stem, to induce a good, stocky growth. Small plants in pots that require repotting should be shifted before the white "working" roots become hard and "pot-bound." Use pots only one or two sizes larger than those in which they have been growing, and pot them so that they will be as deep, or a little deeper, in the soil than before. *Do not fill the pot level full;* leave enough of a depression to hold water when watering until it can soak into the soil.

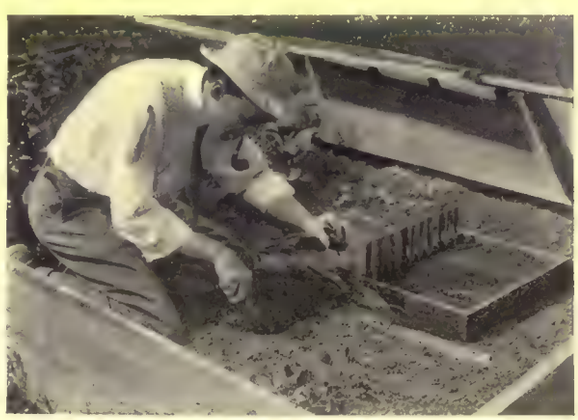
Hardening the Plants

The time is fast approaching when the hardiest plants, such as cabbage, beets, lettuce and cauliflower, can go outdoors. Give these plants more and more air, and leave them uncovered altogether for a few nights when it seems probable there will be no frost, before setting out. If they should happen to get "touched," give a good drenching with ice-cold water as soon as possible, and keep them shaded from the sun. If the frames are crowded, construct a temporary shelter or frame that can be covered at night with old bags, matting, blankets, or anything of the sort that can be found lying around not in use, and shove the hardier things out into

(*Continued on page* 327)



"Water the flats well the day before 'pricking off,' so that the soil will be in proper condition for transplanting"



"Prepare the soil carefully in the hot-bed to receive the seedlings and, with a dibble, make a hole just the size of the roots and the attached earth"



"Paper pots for hardening the plants are cheap and convenient. Do not set them out while there is danger from frost"

THE GARDENER'S CALENDAR

Wherein is laid out his daily work for the year, together with sundry facts useful or interesting.

Fourth month
Morning stars—Mercury, Jupiter

April, 1914

Thirty days
Evening stars—Saturn, Venus



Sunday

5. ☽ Palm Sunday.
Lawns should be seeded now in preference to later. Pruning dormant fruit trees is said to promote wood growth; prune *after leafing* to induce fruit.

12. ☺ Easter Sunday.
Take a look around for the insects that are now rousing from their dormancy to aggressive crawling and eating.

19. ☾ Low Sunday, or Little Easter. Patriots' Day; battle of Lexington and Concord, 1775.
Look up on spraying once more and prepare for first spraying "in the blossom."

26. ● Look up unfamiliar vegetables and try some of them. Sorrel is one of the most delicious; mallows are toothsome, and the "ornamental" gourds are eaten by those who know their qualities.

Monday

6. ☽ Peary at North Pole, 1909.
Remove mulch generally, but keep it at hand in case of sudden cold. Apply nitrate of soda to rhubarb and asparagus, 1 oz. to the square yard, and rake in.

13. ☺ Tent caterpillars strip wild cherry first, then go to apples as their leaves open. Spray as buds open with lead arsenate and Bordeaux mixed, as manufacturers direct.

20. ☾ Sun enters Taurus 0h. 3m. A. M.
Set out bulbs of Easter plants, either in permanent garden quarters or where they can ripen undisturbed. Be careful not to injure leaves or roots.

27. ● General U. S. Grant born, 1822.
Sow last of hardy annuals in garden, thinning out to proper distances apart instead of transplanting.

Tuesday

7. ☽ Cut all old wood out of currant and gooseberry bushes; prune raspberries and blackberries; cut back strong roses one-third, medium growers one-half, and weak growers two-thirds.

14. ☺ Lincoln shot, 1865; S. S. *Titanic* lost, 1912.
If the ground is drying nicely roll lawns, to smooth out the furrows and hummocks made by frost. Always go over them in two directions.

21. ☾ Set out new strawberry plants, rhubarb roots and sea kale. Rhubarb that has been forced is about ready to cut. Set new asparagus beds now.

28. ● Apply second ration of nitrate of soda to asparagus and rhubarb, using same amount as before. Final spraying for scale; also spray for fungi, curculio, codling moth and psylla.

Wednesday

1. ☺ All Fools' Day.
Start cannas, dahlias and gladioli for early flowers. Gather young dandelion plants for salad; serve with French dressing. Delicious!

8. ☽ Apply potash to all woody fruits at rate of 125 lbs. actual potash per acre. This will require 250 lbs. muriate of potash to supply, or 1,000 lbs. unleached wood ashes.

15 ☺ Lincoln's first call for volunteers, 1861.
Take up and divide roots of perennials that have been three years in one place, except such as are better undisturbed for indefinite periods.

22. ☾ All plowing and spading and preparing of the soil should be done by now, unless the season is unusually wet. Be patient if it is; it ruins soil to work it when wet.

29. ● All planting of new shrubs, trees, etc., should be finished by now, and all garden work well under way.

Thursday

2. ☺ Thomas Jefferson born 1743.
Do not prune any of the early or midsummer flowering shrubs until they have blossomed. The winter buds carry flowers as well as leaves.

9. ☽ Actual potash needed per plant—estimated: Currant, gooseberry, raspberry, 2 oz.; blackberry, 3 oz.; grape, 8 oz.; cherry, plum, peach, apricot, 2 lbs.; apple, 3½ to 5 lbs.

16. ☺ Rub off adventitious buds from trees and shrubs, rather than cut branches away later. Never allow anything to start unless you intend to let it grow; this conserves every bit of a plant's vitality.

23. ☾ Shakespeare born, 1564.
Do not relax attention to the birds. They no longer need suet, but their bathing and drinking basin should be ready. Beguile them in every way possible.

30. ● Washington inaugurated first President, 1789.
Watch for cutworms, root maggots, etc. Begin weeding in the garden as soon as the first weed appears.

Friday

3. ☽ First quar. 2h. 42m. P. M.
Sow heliotrope, asters, petunias and other annuals desired in hotbed. Plow or spade as soon as ground is dry enough.

10. ☺ Full moon, 8h. 28m. A. M. Good Friday; the day of the Crucifixion.
New shrubs and trees may be set out now if the ground is dry. Never work it when its not.

17. ☾ Last quar. 2h. 52m. A. M.
Pansies that have wintered in the cold-frame may go out in their permanent places now, also violets; vegetable plants may begin to go into the garden, too.

24. ☾ Provide shelters for toads in the garden, and then provide the toads! A space 6 ins. deep and wide covered with a board under which they can crawl pleases them. They devour cutworms.



Saturday

4. ☽ Stars and Stripes adopted 1818.
Sow cucumber, melon, eggplant, tomato and pepper in hotbed, if this has not been done. Sow early peas in garden.

11. ☺ Apply all fertilizers to the ground from the *tips* of branches *in towards* the tree or shrub, stopping when within 2 to 5 feet from the bole or main branches of the tree.

18. ☾ Watch hotbeds and cold-frames more carefully than ever; give plenty of air; head off aphids and white fly the instant they appear with soapsuds, tobacco dust or kerosene emulsion.

25. ● New moon 6h. 22m. A. M.
A sowing day. Beans, beets, carrots, lettuce, peas, spinach — everything indeed may go in now. Some will be second sowings, of course.

"Whanne that Aprile with her showres sote, the droughts of March hath perced to the rote."

"A cherry year, a merry year; a plum year, a dumb year;
"A windy year, an apple year; a rainy Easter, a cheese year."

Stormy around the sixth and twentieth, cold the second week—generally a fair month.

EDITORIAL

YOUR OWN VEGETABLES

AMONG the many dreadful dangers that hedged about the precarious career of the adventurous mariner in our childhood pirate tales was one more terrible than all the rest. It was the insidious scurvy, and before its fatal approach the bravest privateer was helpless. We did not know what this fabulous disease was like, but unless the becalmed ship adventitiously arrived at some tropical island where vegetables and fruits abounded all hands were doomed. Since those days the word scurvy has stood for some hideous monster, even though the disease is now understandable. But not so long ago there came a true report of a present-day privateer, a pleasure sailor in Pacific seas, and he caught scurvy. The story awakened the slumbering recollection of those boyhood stories, especially when it was discovered that the sufferer was only brought relief by getting in touch with a passing ship, from which he received a crate of onions. Just as in the pirate stories, the cure was almost immediate.

While the chord of recollection was still pleasantly stirring over this tribute to the saving vegetable there came another recommendation from a different source. In a bulletin from the Department of Agriculture was an analysis of the diet of the present day. So much was grain, so much flesh, some little fruit and a very considerable part some patented cathartic. The pamphlet went on to show how these medicines—sometimes harmful—were all unnecessary, for their function was naturally carried out by a liberal use of vegetables in the daily menu.

These facts are not new; the incontestable value of vegetables in the diet is generally understood, but the vegetable forms but a slim part of the meal. In cities it is scarce. Look at a hotel menu card. Meat and game appear in innumerable disguises; eggs parade the names of most French literary or historic dignitaries, but, with the exception of the salads and potatoes, vegetables take but a very small space on the bill, and their preparation shows as much lack of care as absence of distinguishing name. In the country it is even worse. The only purchasable vegetables worth while are those in cans; all the local crop is shipped to the city, where evidently it immediately evaporates. The rural, native population is generally found subsisting almost entirely without any but canned vegetables.

If you want fresh vegetables, and your reason should tell you that you must have them, grow them yourself. This statement here used appears like a last, grim alternative. If you become convinced of the necessity, you will find that the best way is the pleasantest. If there is a finer delight to be enjoyed than the first meal of home-grown vegetables it has not been described to us. And the vegetables are ever so much better than you can buy. The flavor and freshness of the garden-patch crop is beyond the competition of the grocer.

There is another satisfaction; perhaps to some it ranks above all the rest. It is that delicious sense of self-dependence that comes when you really produce your own food; when you see, in place of a few seeds given to the chill hospitality of the ground, luscious, ripe tomatoes or crisp, green lettuce. The satisfaction of Robinson Crusoe when he first found himself self-sufficient by his own handiwork, is little greater than that felt by the man who has kept his table filled from his own back yard. And when we speak of the delights found in the novelty of growing one's own provender we do not, by any means, intend that, with the novelty gone, the pleasure also fades. To us it is a perpetual wonder to watch those few grains of seed develop into great, hulking fruits that bear down the sturdy vines and stout supports. If you are of an intensely practical turn of mind, weigh the tomato seed you set out this spring; then keep track of the weight of the fruit produced, and figure out the tremendous increase in weight dividends that accrues to you for your slight labor. We hope, however, that this existence will not be necessary to convince you of the pleasure and profit to be had in growing your own vegetables.

A SENSE OF BEAUTY FOR EVERY DAY

IT seems a far cry to go back to the Greek state to find out what is the matter with our own, but that is what Mr. Livingstone has done. The message brought back in his book, "The Greek Genius," indicates clearly a general fault of most Americans. He speaks to an English audience, but his charge is as justly directed against us.

"The modern man has a just and well-trained sense for beautiful things," he says. That is particularly true here, where every other individual is a collector of china or brasses, furniture or prints, and most of us have a genuine appreciation for what is gathered. Some of the choicest art of all ages is found in our private galleries and our museums. We are critics all, and most of us dilettantes in the artistic. That is the fault; our need for beauty is purely spasmodic; it is not vital. Our sense of beauty is frivolous. As the author puts it: "We have what I may call a picture-gallery sense of beauty; a sense that can be turned on and off, like a tap."

It is this "on-again, off-again" beauty sense that accounts for the fact that beautiful houses architecturally are ugly and ill-furnished inside. This accounts for our being oblivious to the lack of harmony and attractiveness of much within our very doors, while we prate about the merits of the latest art exhibition.

If we are granted even a "picture-gallery beauty sense" there is a chance for our full development. We will *insist* upon the beautiful about us where we are now content with the dull. With such an awakening, billboard nuisances, outrageous tenement constructions, bare, ill-kept garden spaces and like blots upon the landscape will disappear. We will find new experiences in our life, indoors and out.

A NEW CASE OF FADDISM

THE modern conception of a paternal government which legislates to supervise the morals of the community has by no means exhausted its possibilities with correcting such abuses as gambling and intemperance. There are many other chances for restraining the common fault of going to excess. The bungalow fad, for instance, is a case in point. This house was a good thing in itself when built rationally, but an overplus of zeal in producing it soon resulted in a most astonishing mushroom growth of every sort and variety of bungalow, until certain sections of the country are covered with it in every conceivable duplication. Later, an enterprising architect discovered the adaptability of the Swiss châlet to America. Now some localities show no other type of building.

The present excess of building faddism is the penchant for built-in furniture. The economy and convenience of built-in settles and cupboards are unquestioned. There are several other articles of furniture that are most acceptable when built with the house. But here again we see a good idea run wild. Some recent houses appear with built-in tables and clothes hampers! Before the craze spreads to built-in waste baskets and built-in chairs we offer a plea for restraint. Let us have an awakened conscience as to the fitness of things or call out the militia. Some furniture is by nature portable; much remains too immovable as it is; so we must not kill all opportunity for change and variety within our homes. Why cannot there be a sane regard for functions?

IN ENGLAND during the XVIIth Century, the Bedroom furniture was really a composite style, combining Jacobean, Elizabethan, and Flemish motifs. The Flemish and Elizabethan was somewhat severe in treatment, whereas the Jacobean was decidedly ornate.

As we today study from these periods, we produce designs in perfect keeping with the best thought of the period, while adapting them to present day requirements.

The present trend toward those English styles has re-established Oak as a beautiful wood for furniture construction. Oak is a wood of rare dignity and charm, when designed and finished in a manner which permits its tint and grain to be enjoyed.

Our "Travelogue" on Flanders furniture is a short treatise on these XVIIth Century styles. It will be sent free upon request. Our complete set of period "Travelogues" is mailed you for five two-cent stamps.

Berkey & Gay furniture is sold in the better furniture stores of the United States and Canada. With the display on their floors, and our complete portfolio of direct photogravures, our dealers enable you to choose from our entire line of upwards of five thousand pieces of high grade furniture.

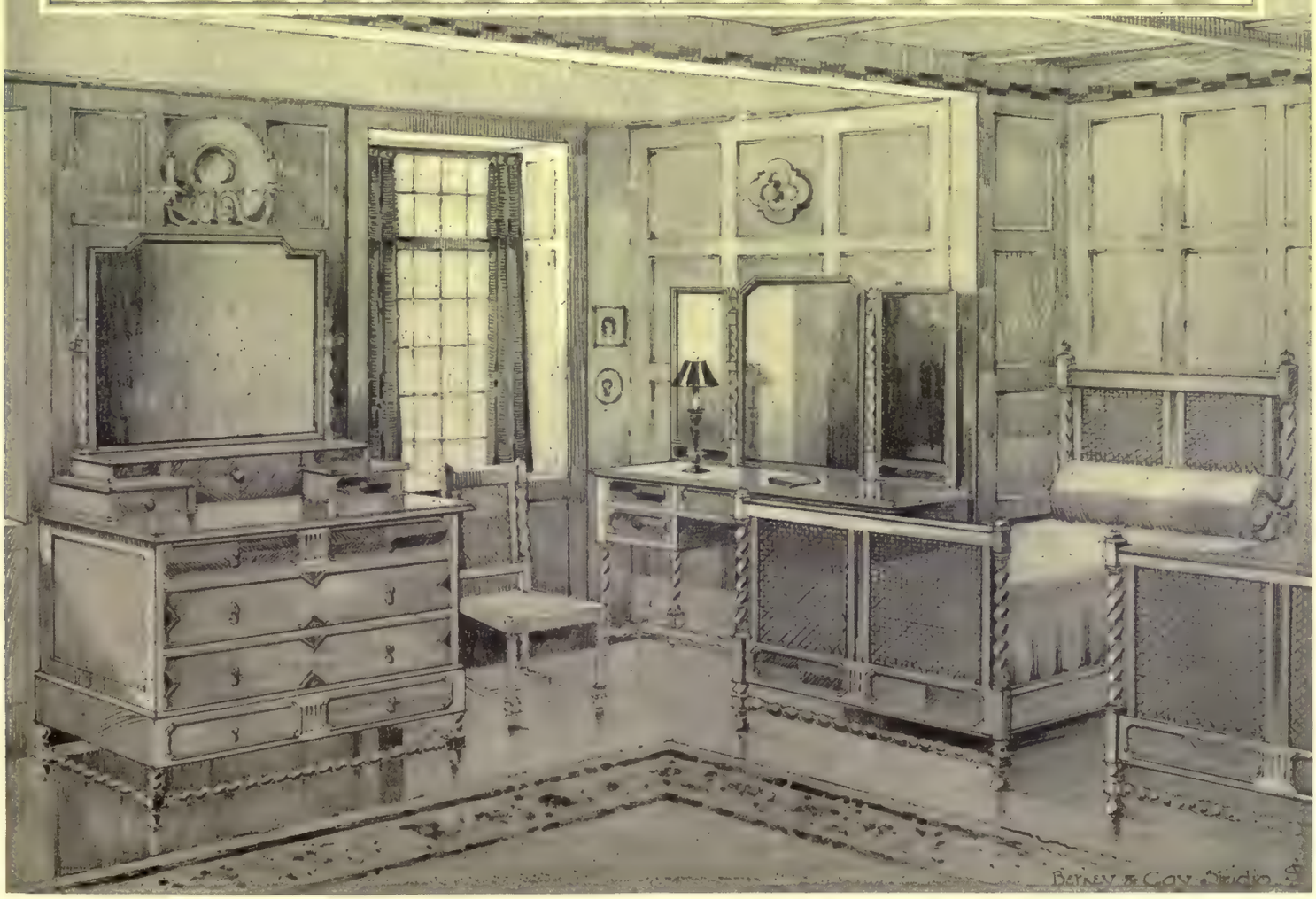
Our de luxe book on period furniture, "Character in Furniture," will more than interest you. Send fifteen two-cent stamps for it.

The reproductions of furniture shown here are from actual Berkey & Gay pieces.

BERKEY & GAY FURNITURE

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Berkey & Gay Furniture Co.
184 Monroe Avenue, Grand Rapids, Michigan



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Smoke is nothing but unconsumed fuel. So take a look at every smoke stack you own, or are interested in: If you see smoke grimly sailing forth to pollute the atmosphere get it firmly in your mind that some of your coal money is being wasted.

It is a proven fact that smoke is waste—good heat giving gases and small particles of carbon going up the chimney unburned.

And it is absolutely unnecessary. The right boiler will allow you to burn the cheapest sort of soft coal without making any smoke—simply because the right boiler will burn all the fuel, using it all to make heat instead of wasting some of it as smoke.

KEWANEE

Smokeless Firebox Boilers



Hartman Furn. & Carpet Co., Office and Warehouse, Chicago. Ottenheimer, Stern & Reichert, Archt. 2 Kewanee Smokeless Boilers installed.

for apartments, churches, schools, large homes and buildings of all kinds, are designed to burn the cheapest soft coal without smoke. And they do it. That is a proven fact. In practically every large city having a smoke ordinance the smoke inspector has put his O. K. on Kewanee Smokeless Boilers.

And they will make a noticeable saving when semi-anthracite or smokeless coal is used.

Hartman Furniture & Carpet Co., says:—"When fired right, they are absolutely smokeless and instead of using the very best smokeless coal which we formerly consumed in our boilers we now use an ordinary mine run at much lower cost.

Our booklet "*Cutting Coal Costs*" will interest you. Ask for it.

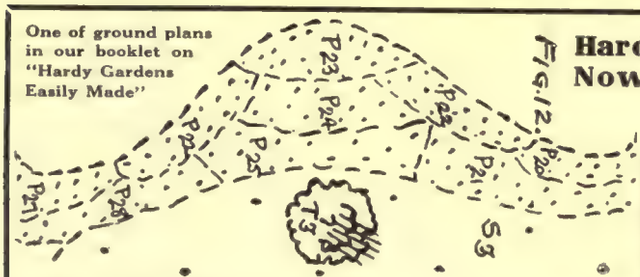
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One of ground plans in our booklet on "Hardy Gardens Easily Made"



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Hedges for Every Garden

(*Continued from page 267*)

species. A space of from four to six or seven feet must be calculated for the width of a flowering hedge, or fully twice as much as a sheared hedge will require. This is more than a small garden can afford to spare usually.

The shrubs mentioned as available should be planted at the following distances, when they are to be left to grow naturally—that is, unsheared; *Berberis Thunbergii,* Japanese barberry, nine inches; *Berberis vulgaris purpurea,* common purple barberry, ten inches; *syringa vulgaris,* common lilac, 12 inches; *Hibiscus Syriacus,* rose of Sharon, six inches; *cydonia Japonica,* Japanese quince, twelve inches; *Spiraea Van Houttei,* Van Hout's spirea, twelve inches; *spiraea Thunbergii,* Thunberg's spirea, nine inches; *Hydrangea paniculata grandiflora,* panicled hydrangea, twelve inches; *Rosa rugosa,* Japanese wild rose, eighteen inches; *Viburnum dentatum,* viburnum, twelve inches; *Cornus stolonifera,* cornel, twelve inches; *Cornus peniculata,* panicled cornel, ten inches; *Deutzia gracilis,* Deutzia, nine inches; *Diervilla rosea,* Weigela, twelve inches; *Ligustrum Ibota,* privet, six inches; *Ligustrum Regelianum,* Regel's privet, eight inches; *Ligustrum ovalifolium,* California privet, ten inches; *Ligustrum Amurense,* Amoor privet, twelve inches.

An attractive combination hedge is the Rose of Sharon as a back planting with any of the low-growing species before it to screen its bare lower third. The Deutzia is particularly good, and so are the spireas and the Weigelas. Without this lower growing foreground, planting hibiscus is likely to be a disappointment owing to its tall spare growth.

Of evergreens the hemlock is perhaps first choice for hedge planting. It stands close shearing well and its feathery exquisite beauty has no rival either in winter or in summer. But arborvitaes are the best of all if an unsheared evergreen hedge is wanted, for of themselves these hold erect and trim and keep just the best shape in the world for a hedge. Norway spruce is good and endures great exposure and hardships; and white pine, little used, is very satisfactory and beautiful and suited to the northernmost climates. All of these may be kept of any desired form and at any height; all should be set at the same distance apart—namely, fifteen inches.

For a hedge that is not to be exposed to all sorts of boundary indignities, there is nothing that will ever take the place of boxwood; and though its cost is considerable compared to the commoner things, it is worth the money every bit. Moreover, special prices are always made for the purchases of quantities. Nothing that can be planted gives such an immediate effect, for the smallest size plants are impressive in their sturdy assurance of

good breeding and permanence. The one secret of success with it is its first wintering. After this, in a climate where it will endure at all, it requires no further attention. Be sure in planting this, however, that you select the hardy and enduring *buxus sempervirens,* and never the unhappy baby dwarf box, *buxus suffruticosa.* This is the plant that has given boxwood generally a bad name as to endurance.

Thorough preparation for a hedge will pay quite as much as thorough preparation for anything else about the out-of-doors. It is not necessary to give up a year or two to cultivation, of course, as it sometimes is for a special crop; but deep working of the ground to lighten it if it is heavy will result in a quicker response in the plants and in a consequently finer hedge within a given time, than simply setting them into the ground without taking the trouble to make this specially ready for them. A trench should be dug ordinarily somewhat deeper than the roots themselves demand; then over the bottom of this well rotted manure may be spread, and over this in turn a sifting of the good top soil taken out and piled separately when the ground was broken. Onto this set of plants, using a tape line stretched along the length of the trench, to fix the distances apart. Be sure that these distances are accurate—that is, within one quarter inch of being exact. This is quite possible—for it is the middle of the plant by which judgment should be made. Two plants ten inches apart are not ten inches apart actually, but ten inches apart *on centers,* as a carpenter would say—that is, it is ten inches from the center of one to the center of the next—which means that the actual distance between roots and branches may be *nil.* As a matter of fact, hedge plants usually are set so that root bunches touch. And sometimes they must even be plessed together a little bit to come within the stipulated distance; but not if you do not buy plants larger than the sizes advised.

As the plants are set along the trench at proper distances, a helper should follow and shovel in earth to stay each in its place. Two others may follow him, if this amount of assistance is available, to finish the job; or the trench may be set for a distance of twenty-five or fifty feet, according to the length of the tape-line used, and then gone over again and finished. Work the soil down among the roots exactly as it is worked down about any shrub or tree, firmly and thoroughly, and be very sure that the trench is deep enough to receive these without having any of them turned upward or snarled into a knot, or in any way handled other than the roots of specimen shrubs would be handled.

A good watering to settle the earth after it is nearly all in place is advisable, and then the last of the earth should be thrown on as soon as this water seeps in.

Protect boxwood through its first winter, even when spring planted, by a covering of burlap, pinned, pinned down like a

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tent over a little framework that will keep it just above the plants. Fill this with oak leaves, and secure it thoroughly so it cannot blow away. Cut all privet intended for a sheared hedge down to within four inches of the ground at time of planting. This is absolutely essential if any sort of a satisfactory hedge is to result, for this simply will not grow from the ground up unless made to do so by such cutting back. The first year will show astonishing growth, however, so you need not feel it a great loss to cut down even large bushes.

All hedges that are sheared, whether evergreen or deciduous, suffer greatly usually through being given a form that is non-resistant to weather and storm and that prevents their best development as well. Remember that where no sunlight reaches no branches will grow, and remember that a hedge wider at the top than at the bottom is bound to shade itself from the sun, as well as catch and hold a greater weight of snow and ice in winter than its foundation can endure. So aim always at the inverted wedge form in shearing. Keep the hedge wide at the bottom, narrow it at the top, and it will never break down under ice or snow, or wind and sleet. Whatever the height, keep to this form, and whatever the material of which the hedge is planted. The top may be flattened if preferred, but even here a conical oval is better than a flat surface, as offering less ice hold.

First Aid to the Orchard

(*Continued from page 279*)

at hunting out foliage.

The eggs of the White-marked Tussock Moth are laid in a white, brittle froth. Those of the Rusty species are uncovered, each separate egg showing distinctly. Arsenate of lead will easily poison either species.

If one were to step a few paces from a tree and pepper the trunk or limbs with a charge of fine bird shot, the result would closely simulate the work of the Shot-Hole Borer. Apple or cherry, peach or plum, may be attacked. Strip off a bit of the bark where the holes are numerous, and beneath will be found characteristic, slender galleries, radiating from a central brood-chamber. The holes show where the adult beetles came out.

A dead limb or a decrepit tree is the favorite breeding-place of this insect. From these it spreads to other trees near by that may be weakened. To check it, remove and burn any dead wood before growth starts in the spring.

The borer at the base of the trunk of apples, and the species that works similarly in the peach, are due for attention now. Sawdust or gum betray their presence. A sharp knife is the best tool with which to locate their burrows, followed by a soft wire to probe for the grub. Nick the end of the wire so as to give it rough bargs; then you may know whether your probing has been successful.

Up the Hill to Our House

(*Continued from page 276*)

White fox glove, bleeding heart and fuchsia lend their touch of quaintness. The lavendar funkia increases in perfection each year as the clump grows heavier. No garden is complete without lemon verbana, rse geranium, heliotrope and the old-fashioned clove pink.

Veronica is most effective when placed in a thickly planted bed, yet the graceful stem with its sky-blue flower is charming mingled with the delicate green of other plants. This also applies to red pentstemon, which has none of the garishness of other red flowers. It blooms soon after veronica; therefore a bed with this combination can hardly be improved upon.

I mention my yellow lilies and Golden Glow with a feeling of defiance for those who scorn them. To me they have been friends in need. The first summer the drains about the house were eyesores with their grassless rims of hard pan thrown there by the workmen. I replaced some of this by top soil, but did not find time to have deep beds made. I tried one flower after the other, but all died. Discouraged, I planted the lilies. They alone seemed to revel in the worst abiding place in the garden, and transformed the drains into places of deceptive attraction. That first season a neighbor gave me of her overflowing Golden Glow. I had planted these near the house, but after having made their acquaintance, the following spring I treated them politely, but with few words walked them down the hill. Our small cement stable, pump house and chicken coop being in plain view of the house, I fretted over their unclad appearance. I could not buy more shrubs, as it would take many and large ones to screen these buildings. In their place, I planted my Golden Glow in a long hedge about ten feet up the hill. It grows very quickly each season, and has made a most satisfactory screen, permitting only a view of the stable roof. In fact, it has filled its position so well that I have long delayed ordering the hemlock hedge for a permanent feature.

The subject of vines is a pleasant one to dwell upon. They furnish interest out of all proportion to the money invested, and require the least trouble except the planting, if trouble this could be called. With an eye to the distant future, I placed three wistaria plants, five Dorothy Perkins, and four ampelapsis about the house.

It was marvelous how they jumped up the first summer. The next winter was fiercely cold and some of my vines died down several feet. The ivy on one end of the house had grown in a very pretty shape, a thick tapestry of green pointing highest in the center. Our living room fireplace was behind its home wall, and during the cold October days we indulged in many blazing fires, to which I attribute the death of the main branch of this ivy.



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I had to wait for over a year for its renewed growth. The wistaria grew without a halt, but, alas! my poor Dorothy Perkins. During the second summer, always the critical one for babies, they showed symptoms of a disease. I rushed to my medical book, thinking anything would be better than to have this germ, or insect, sap the vitality of my pet ones. Instead of dosing them with mild home remedies, I sprayed them with Paris green which had been left over from my apple tree doctoring. A few days passed and the strong drug had done its work. The leaves all dry, hung brown and limp, and the stems of all but one started childhood over again. The next summer I sprayed them with pyrox, one pound to eight gallons of water, and in a few days sprinkled them with water and threw on tobacco dust to kill the aphis. This was successful. One vine I forgot to mention was clematis. I planted two vines before the posts of the piazza facing the view. Each summer they stood before me as living examples of that most maddening of all precepts, "If you don't at first succeed, try, try again." Instead of growing taller and more luxuriant each year, they started over from the bottom up. They tantalized me so that I finally turned them out in a vicious temper. David pleaded for their lives, saying they were not strong enough to weather the winter gales. "I despise weaklings and have no room for them on my place," I replied, pulling at them harder than before, and in their place planted Virginia creeper.

At times everyone has a longing for seclusion in various degrees. Of course to some four walls are sufficient, but I am speaking of those rooms and temples of nature where the mind and body can rest and the spirit grow. There is nothing more delightful than the little outdoor room shaped by the natural growth of tree and shrub, but tamed down into a chamber, where hammock and rustic chair cater to one's comfort. In our line of trees there is a space twelve by fifteen feet, with an oak and elm tree growing at either end, while bushy undergrowth partially screens the outer world from view. As the slope of the ground declines sharply it was necessary to form a terrace. Our man dug up the sod, laying it aside. He then built up the lower portion with a multitude of small rocks, making it almost level with the top, then pulled down the top soil to cover them and replaced the sod. At the lower edge he built a miniature wall with steps in the center, and so my room was finished. All this work was done in one day. The space below the steps was quite as suitable for room building as the one finished, so I eagerly planned a second room and carried it out in the same way. Here were two stalwart trees just the right distance apart for a hammock—this we called the lounging room, while the first was the tea room. To furnish it I found rustic chairs which were both artistic and comfortable and a

small rustic table. There were on the neighboring place some buildings which were in full view, and I planted flowering shrubs to serve as a screen. These rooms are conveniently near the house and have what is most desirable of all—the distant stretch of our beautiful view. If the solitude of the woods, with hushed gurgle of brook and love twitter of bird, calls one, it is not surprising if this comfortable room is forsaken and moss and fern become your couch.

We will wander down the line of trees by a foot-path and pass from the sunshine into the gold-flecked woods. Still downward we go by winding path beneath tall forest oaks and maples. We must resist the invitation to rest in the laziness of spring fever upon the moss-covered rocks by the side of the path. We come to the brook and take our choice of gliding across a fallen giant oak or slipping from stone to stone moist with the splash of tiny ripples. We reach the edge and glance ahead. In a gradual sweep upward rise crags and boulders adorned by masses of rosy, dawn-tinted laurel on ledge and slope. Neither heaven nor earth could hold a more lovely picture, and we revel in the aroma of forest pine and blooming flowers till our reluctant return.

Editor's Note: *The concluding chapter in this experience in home making will appear next month.*

A New Way to Succeed with Dahlias

(*Continued from page 280*)

dominance.

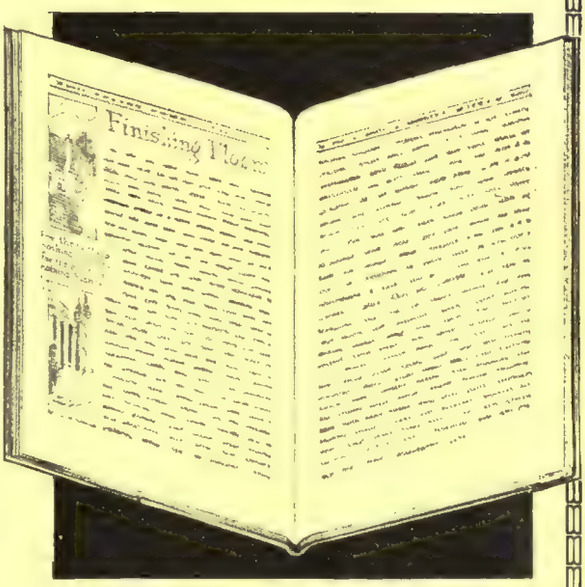
The flowers may be kept perfectly for four or five days by cutting them at night and plunging the stems in a vessel of boiling water for a few minutes. Then put them into cold water and put them away in a cool place—the cellar if necessary—over night. By morning the stems will be found to be strong and stiff.

The plants are grown for three purposes: First, for garden decoration; second, for cut flowers; and third, for exhibition. Varieties should always be chosen, therefore, for the purpose of the grower in mind. There are the cactus forms, distinguished by the long twisted or pointed petals; show dahlias, large, round and quilled, well formed and in solid colors, though sometimes shaded at the tips; the fancy dahlias, which are really just the variegated quilled varieties; the decorative dahlias, which are loose flowering and full, or nearly full, to the center with broad, nearly flat petals; the peony flowered or art dahlias, of immense size, with two or three rows of petals; the pompon dahlias, which are round and miniature, and usually of dwarf habit; the collarette type, which has one row of petals and a collarette of small petals around the yellow center; and the single dahlias, which is just

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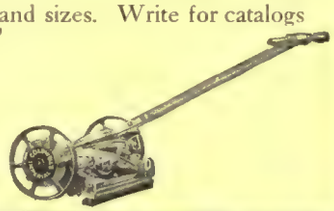
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SHOW

White, overlaid with amethyst-blue, W. W. Rawson; yellow, Charles Lenere; canary yellow, Caesar; red, Hussar.

DECORATIVE

White, Kaiserin Augusta Victoria; yellow, Colossus; dark rosy-pink; Delice; scarlet, Lyndhurst; white, tipped scarlet, Mme. a Lumier.

POMPON

Pink and crimson, Brunette; Buff, tinted orange, Ariel; yellow, Fairy Queen.

PEONY FLOWERED

White, Queen Wilhelmina; light pink, Andrew Carnegie; white and yellow, Queen Alexandra; salmon pink, Bertha von Suttner; canary yellow, Caesar; yellow and red, Geisha.

COLLARETTE

Carmine, white collar, President Viger; white and purple, Directeur Rene Gerard; yellow, Souvenir de Chabaune.

SINGLE

White, Bride; cerise pink, Coquette; deep red, Mme. Curtelin; deep maroon, Dr. Peary; scarlet, Duke Henry.

Choosing Flowers for Their Color

(*Continued from page* 287)

fully, and is an altogether charming flower, lower-growing and more informal than the later phloxes.

There are so many purples in the iris tribe that space fails in which to describe them. Speaking in general, the Germanica purples incline to violet, both clear and velvety; the Pallida section has all tones, from "rosy mauve" to "pale blue" (dealers' description); the Neglecta section has, usually, standards and falls of very different tones; and those of the Plicata section are nearly all white, frilled with varying tones of blue-violet. *I. Sibirica* is rather a crude blue-violet, a "shouting" color; lovely, tiny; *I. cristata* is called "sky-blue," but is really a soft blue violet; as are the paler pumila hybrids, the darker ones of which are a fine deep purple. The Japanese iris seem to embrace almost every tone of violet and purple.

The old-fashioned, freely self-sowing sweet rocket (*Hesperis matronalis*) is a light phlox-purple, and very pretty with pale rhododendrons of pink foxgloves, being between them in tone and of much the same hue.

The deep purple *campanulæ*, although a fine, clear violet, are an ugly color, hard and harsh, like the violet *clematis Jackmani*, which so many people are possessed

to train over red brick walls! *S. rapunculordes* is a fine, clear light violet, good for naturalizing, but will, if permitted, crowd everything except golden glow out of the border!

A flower of a clear, pale bluish violet is the purple funkia; it is not particularly effective, but its really good color should be borne in mind when planting it for its foliage effect.

The *Monarda fistulosa,* or wild bergamot, is a most happy flower in the garden. It is shaped like the bee balm (*M. didyma*), but is more delicate; it is palest phlox-pink, taking up the lilac just where physostegia leaves the rose, and fits into almost any color scheme.

There are several exceedingly good phloxes of the paler tones of violet and purple, and a few of the deeper ones; in fact, some of the finest purples of the garden are found in this class, but the true purple, while a wonderful color in itself, is almost impossible to combine with other flowers. "Lord Raleigh," for example, is a splendid one, but completely shouts out everything else in the garden. "Comte von Hochberg" is also a fine color, a trifle redder than "Lord Raleigh," and ever harder to combine; either would be beautiful, with white, against dark evergreens. "Eugene Danzanvilliers" is the palest tint of amethyst violet, called Hortense violet; "Antonin Mercie" is lower growing and a little pinker, but about the same tone. "Nana cœrulea" is a dwarf of a pale lavender violet.

The exquisite Michaelmas daisies come in varying tones of purple, as well as the bluer ones already alluded to, and range from a pale phlox pink to a true purple. In general, however, the ones listed as "pink" are more nearly pale lilac.

There are not many desirable purple annuals. Pansies, of course, in all hues; ugly little *Mathiola bicornis,* with its small lilac blossom, valuable and beloved for its delightful evening perfume; purple larkspurs, not a good color and seldom two blossoms the same tone; purple cornflowers, a reddish raisin purple, not bad, but apt to overrun the garden and contaminate the other colors of the same flower, which seem to revert to this if it is allowed to self-sow in mixture; schizanthus, the butterfly-flower (not butterfly-weed, which is *Asclepias tuberosa,* and an orange hue). The schizanthus comes in varying tones of pale and deeper purple, and is exceedingly pretty; it comes in other colors as well. The purple scabiosas (Mourning Bride) are good, a pale Hortense violet, and a pale violet of a bluer tone, as well as a very dark blue violet. There are very good dark violet verbenas, and a number of clear violet China asters of varying depth of tone, from pale to very deep.

There are several purple gladioli; one of the best is "Baron Joseph Hulot," which is almost a blackish violet, so deep and velvety is its tone. This is sometimes listed as synonymous with "Blue Jay," but the



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true "Blue Jay" is larger, and is a cold, light-bluish violet, beautifully marked with a deep blue violet and white. "Baron Joseph Hulot" would work perfectly into a purple scheme; "Blue Jay" would not. There are a few good pale dahlias of violet and purple tones, but the darker ones are awful!

Simple rules for using purple and violet in combination with other colors are as follows:

1st. Purples, pale and deep, from phlox pink to prune purple, with each other, with creamy white and pale creamy yellow.

2d. With deep blue violets, a brighter yellow, and sometimes a cold white. With pale blue violets, creamy yellow. All blue violets with each other, and with creamy white.

3d. With palest violets and palest purples, rose pink and pale rose pink. (Rose *color* is much deeper.)

4th. If one is experienced, one may make wonderful combinations of clear violet and spectrum blue, purple and Tyrian rose, and daring "dabs" of bright rose, scarlet, or orange, but for the average colorist, in the average garden, the first, second and third plans are the best.

* * * * *

In natural sequence to the consideration of blue in the border comes the thought of its complement, yellow, and with equal spontaneity the thought of gold follows upon that of the royal purple. But, in handling this most useful and delightful color, one must not lose sight of the fact that *yellow* is *not* gold, and will not draw a color scheme together as true gold would do.

There is a class of yellows, however, almost "as good as gold," and second only to cream white in value—the creamy, opaque pale tints, maize, and straw and pale buff-yellows. The earliest of these are shown among the tulips, and they are a little deeper, perhaps, than the best of these "binding" colors. Delicate, lily-like *Tulipa retroflexa*, and later "Flava," "Moonlight," and "Miss Allen Willmott," are all exquisite, the last-named being a trifle darker than the others, and delightfully sweet-scented.

One of the very best of these tints is *Iris flavescens*, a heavenly tint of palest straw, which will combine literally with any color. *Thalictrum flavum*, which is listed by Kelway and by one or two American dealers, is a most useful straw color; the foliage is like a large, pale green Maiden's-hair, and the flowers a feathery mass of pale, creamy yellow, which would lighten and relieve almost any composition in both color and form.

If climate permits—"south of Philadelphia"—the loveliest pale yellow of all is the yellow Tree Lupine, absolutely perfect in every essential save that of hardiness. The palest yellow snapdragons are good, but, like the deeper ones, which are equally valuable in their place, they are

(*Continued on page* 309)

Renovating Old Lawns

(*Continued from page 272*)

reverse is true. A sandy loam on top of gravel is the best, as it is desirable to keep the grass low.

Do not make the general mistake of covering the ground heavily with manure in the fall and spring. Make your initial investment in the soil cover this annual expense and your lawn will last for years. Hardwood ashes of test showing 7 to 9 per cent potash scattered over as a top dressing so that it shows white on the grass, will be all the fertilizer generally necessary, if spread in the spring. Try to select a time before rain for this work. Seed may be sown early in the spring or the fall. If in the spring, the work must be done early enough to allow the plants to become established before hot weather; in the fall, soon enough to grow before frost. Sow seed about three bushels to the acre, spreading evenly. A lawn seeder will make you independent of wind and weather and accomplish even distribution. Without it the ground should be raked thoroughly to cover the seed.

Now comes the important matter of rolling. After sowing, roll with a heavy roller, then sprinkle, and when the water soaks in roll again. The roller is a tremendously important adjunct to the lawn, and it should be rolled at intervals during spring and summer. This even pressure assists the ground in retaining moisture, and when rolled in the spring overcomes the effects of the alternate freezing and thawing so destructive to plant life. Rolling in summer discourages worms, moles, ants and other pests, and is invaluable for a successful lawn. One need not consider the rolling of the lawn an athletic exercise, for the old-fashioned, awkward, rusty back-breaker of other days should be a thing of the past. Its shrieking complaints as it was dragged across the lawn sounded like murder and often induced a temper to commit murder. Today you may get a ball-bearing, silent, easy moving machine, the weight of which may be adjusted.

In watering the lawn the prime requisite is to get the moisture to the roots of the plant, and as efficient a way as any is to allow the hose to lie in the grass long enough to make the immediate district marshy and sodden.

Weeds will probably come if stable manure is used. You must attack them regularly in the spring and the fall, and if you have not a long-bladed asparagus knife with a V cut in the end, file a steel kitchen knife into this shape. Dig dandelions and plantains deep and sprinkle seeds when you take the weeds out. Crab grass should be pulled out in the fall with the teeth of the rake. Dig out the roots. Close cropping of the grass will prevent its developing and sowing its seed which spread for another year. But pull it up wherever seen, and keep at it. Use a good lawn



The terrace was spread with Alphano. The rest of the lawn with barnyard manures. Three days before the photo was taken, entire grass wasmown. The larger growth and deeper color tellsits own story in favor of Alphano.

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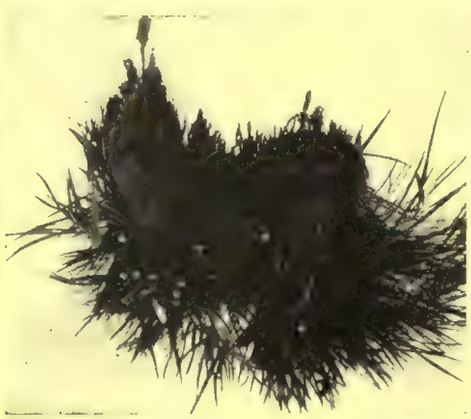
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mower as often as the grass shows irregularities and becomes too thick. In the dry summer weather raise the cutting knives of the lawn mower to avoid cutting too close and drying the roots. Do not cut after fall is well established, as the grass should leave its own winter protection, but let this not be too long. Lawn mowers have been improved and they now come with ball bearings and large, efficient cutting edges. Most kinds may be equipped with a device for catching grass clippings and keeping the lawn in trim condition.

If you would know what sort of grass to use for different conditions, you can do no better than consult a reliable seedsman, whose lawn mixtures he will guarantee as he does his reputation. But the following description of grass plants, compiled by Mr. Luke J. Doogue, will be of help:

Kentucky Blue Grass—*Poa pratensis.* Fine for lawns; grows slowly but vigorously almost everywhere but on an acid soil.

Red Top—*Agrostis vulgaris.* Shows results more quickly than Blue Grass; will thrive on a sandy soil; fine in combination with Blue Grass.

English Rye Grass—*Lolium perenne.* Grows quickly and shows almost immediate results; good to combine with the slow-growing Blue Grass.

Various-leaved Fescue—*Festuca heterophylla.* Good for shady and moist places.

Rhode Island Bent—*Agrostis canina.* Has a creeping habit; good for putting-greens, sandy soils.

Creeping Bent—*Agrostis stolonifera.* Creeping habit; good for sandy places and to bind banks or sloping places. Combined with Rhode Island Bent for putting-greens.

Crested Dog's-tail—*Cynosurus cristatus.* Forms a low and compact sward; good for slopes and shady places.

Wood Meadow Grass—*Poa nemoralis.* Good for shady places; is very hardy.

Red Fescue—*Festuca rubra.* Thrives on poor soils and gravelly banks.

White Clover—*Trifolium repens.* Good for slopes; not to be recommended for a lawn.

Sheep Fescue—*Festuca ovina.* Good for light, dry soils.

To introduce the ready-made lawn, use a combination of Kentucky Blue, Red Top and English Rye. The Blue Grass is slow, but the Rye and Red Top produce speedier results. The first month will see the newly seeded space a carpet of green. In time the Rye passes, the Red Top continues to cover, while the Blue Grass grows sturdier each day until it crowds everything out by virtue of its own strength. Use 12 pounds of Kentucky Blue Grass, 5 pounds of Red Top and 3 pounds of English Rye Grass to the bushel, and sow 3½ to 4 bushels to the acre.

For shady places Kentucky Blue Grass, Wood Meadow Grass, various leaved Fescue, and crested Dog's-tail. Use 35 per cent of the first two and 15 per cent of the last two.

For conditions that require a quick-growing grass, and something that will bind and make a holding upon slopes under difficult conditions, the following is recommended: Kentucky Blue Grass, 30 per cent; R. I. Bent, 30 per cent; Creeping Bent, 25 per cent; Sheep Fescue, 10

per cent, and White Clover, 5 per cent. This is one of the places where White Clover is an essential. Under these conditions it fulfils its mission perfectly. While all the named kinds may not flourish, there will be enough to make the work successful.

Choosing Flowers for Their Color

(*Continued from page 306*)

more of a lemon yellow. The graceful, long-spurred yellow columbine (*Agueligia Chrysentha*) is a good, soft color, a trifle deeper and brighter than a maize yellow.

Of the annuals, the various calendulæ are good; the palest tints are a pinkish cream, shading through deeper and deeper maize yellow until the warm cadmium and orange shades are reached. The yellow gladiolus "Canary Bird" is a good, deep maize yellow, but best of all is the ever-lovely phlox *Drummondi,* listed as "Isabellina" or "Primrose," as perfect in color as *Iris flavescens,* but deeper and pinker—the palest buff. Could I have but one pale yellow in my garden, it would be this annual phlox.

Turning to the clearer and brighter hues, we open the season with the fine, deep chrome yellow crocus, "Cloth of Gold." Then come the clear lemon chrome of *Viola cornuta "Sutca,"* and the pale tint of the dear little English Primrose. A good early yellow, which, though almost a bright sulphur, has a strangely silvery quality, is *Alyssum saxatile.* This, like *Anthemis tincteria,* which has a daisy-like flower of light lemon chrome, may owe its silvery effect to its soft, gray-green foliage. The deeper lemon chrome, Iceland Poppy, is a charming flower, of good color.

The good, bright yellow tulips are almost "too numerous to mention." Yellow Pottebakker is a good early one, small, charming, black-anthered "Bouton d'Or," a pretty late one, and between come all sorts of beauties, which are more accurately described than most—it is hard to go far wrong in buying bright yellow tulips! A few of the irises, notably *I. Germanica* "Aurea," are good clear yellow, but most of them have bronze or reddish markings. The wild yellow flag, *I. pseudocorns,* has a flower of good color.

The very double, very shiny, old-fashioned gold button (*Ranunculus repens*) is a creeping double buttercup of brightest lemon chrome, so bright as to be almost real gold. The "California" primrose (*Œnothera fruiticosa var. Youngii*) is a pretty flower of a bright pale lemon yellow. The well-known *Coreopsis lanceolata,* though a bit rampant, is a good color. The lemon lily (*Hemerocallis flava*) is a soft chrome yellow, and the variety *H. Thunbergii,* a charming, creamy orange yellow. A flower much used in England, and deserving of more notice here, is the

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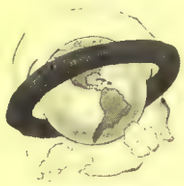
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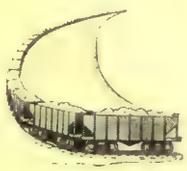
Telephones
enough to string around Lake Erie—8,000,000 of them, 5,000,000 Bell-owned, which, with equipment, cost at the factory $45,000,000.



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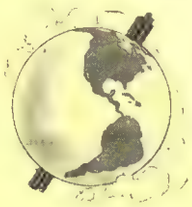
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leopard's bane (*Doronicum*). It is rather coarse, but has an interesting flower of a cadmium hue and good foliage. A good June yellow is *Thermopsis Caroliniana*, about five feet tall, with pretty foliage and feathery spikes of pea-shaped blossoms of a pale lemon chrome.

Most of the rudbeckias, helenia and gaillardias are too orange, but some of the named hybrid gaillardias are good yellows. Several of the helianthi are fine, clear yellows of the lemon chrome tones. Common tansy (*Tanacetum vulgare*) is a good deep chrome, but turns rusty. Sentimental-sounding Bible Leaf, Sweet Mary, or Costmary (*T. Balsamita*), is a delusion and a snare, with roots like a doormat. One of the best of backgrounds is Jerusalem artichoke, like a small sunflower; lift it like a dahlia, to prevent spreading. Of the early chrysanthemums, "Well's Primrose" is a lovely pale lemon, and "Roi des Jaunes," a deeper tone.

Of the annuals, the best are the African marigolds, "Lemon Queen" (sulphur color), and "Pride of the Garden" (bright lemon chrome). The lovely California poppies are a little inclined to orange, and might form the connecting link between that and yellow; they vary somewhat and are hard to place. The dwarf annual sunflowers "Cucumerifolius" and "Perkeo" are good, and bloom profusely. There is one "bedding-out" flower, beloved of English gardeners, without which no article on "yellow" would be complete—the fat little Calceolaria. This comes in a variety of colors, but the yellow kind is *not* yellow—it is *yeller!*"

The points to bear in mind in using yellow are these

1st. Use the pale straw and maize tints anywhere, just as you would white.

2d. Clear yellow with most blues, using cream white freely in the group; creamy yellow of any depth with any blue, white not being necessary.

3d. Bright yellow with deep blue and deep violet (not the red-purples). Clear yellow very sparingly with pale blue-violet, and not at all with pink.

4th. Remember that yellow "carries" farther than other colors, so it is best to have the other color in a combination in greater quantity than the yellow—"picked out," as the dressmakers would say—with touches of the fairy gold.

What You Must Do With the Garden Now

(*Continued from page* 283)

tion of getting the job done more quickly; think of the difference in marking out the rows straight as a string; opening the drill; dropping the seed; covering and rolling, all at one operation, and all as fast as you care to walk, and performing these jobs in succession, laboriously, one by one, by hand and with an aching back!

You can do the work better, *much* better, with the seed drill—the rows will be straighter, the seed sown more evenly, and the plants will come up in a thin, narrow line, which very greatly facilitates the work of cultivating and weeding. By all means, your garden equipment should include a garden line on a reel; without it you will be tempted to put in some rows "by eye" when you are in a hurry, and the result is likely to sadden your life for the rest of the season whenever you have occasion to look at it. Get every row as straight as a string, and have them parallel. A yard stick, such as many hardware stores are in the habit of giving away for advertising, is very handy to have along in the wheel-barrow when you are planting.

Many flower seeds, however, and occasionally vegetable seeds, in a small garden cannot be put in with a seed drill; and wherever planting by hand becomes necessary, the job should, of course, be done well. A great convenience when sowing by hand is to have a wide, flat board of convenient length upon which to stand or kneel while sowing the seeds; it serves also as a straight-edge, as the drill for the seed can be marked along one side of it, and, after the seed is sown and covered, the edge of the board may be pressed down along the row, thus firming the seed in the soil. For very fine flower seeds, it is well to have a supply of a special soil for covering mixed up, and the drill can be filled with this, after the seed is sown. Occasionally, where mass effects are desired, fine seeds are sown broadcast; in this case the surface, which should be especially dug up and raked, is made as fine as possible, and the seed, after being scattered thinly, is raked lightly into the surface of the soil.

Some seed is very refractory and slow to germinate. A good plan with seed such as these—parsley and celery are instances—is to soak them from twelve to twenty-four hours in lukewarm water before planting them in a warm place, and sometimes they are actually pre-spouted before planting by leaving them either in water or in a very moist, warm place until the sprouts actually begin to appear. Other seeds, such as cannas and noon-flowers, are covered with very hard shells, which the swelling germ has difficulty in bursting; these are assisted by making one or two small notches with a sharp knife blade, or by filing a slit in the shell part way around with a very fine file. In addition to this, they may be soaked until they begin to swell before planting. Still other seeds, such as lima beans and Castorol beans should be placed into the soil with the germ, or "eye," down, so that the large, leafy cotyledons will be able to force their way through the soil to the surface.

Of course, in planting these seeds of either flowers or vegetables, you must

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take into consideration, besides the size of the seed, the size and habits of growth of the plant. The distances apart for planting the various vegetables are shown in the table on page —. You are probably familiar with the normal size and shapes of most of the flowers you plant, and if not, the heighth is usually mentioned on the packet, and a distance of *half the height,* for the plants to stand after they are transplanted or thinned out, will generally be about right, although they are often planted much closer or left to stand much closer where a mass of solid color is desired, as for edging or solid beds or design work.

Aside from the question of distances, the method of planting will depend also upon the size and habit of growth of the plant. In the planting table, the method of planting—drills, rows or hills—is indicated. In "drills" the plants are grown in a continuous row quite close together; the seed is usually sown quite thick; that is, compared to the distance at which the plants are to stand, and then the plants are "thinned out" sufficiently to give them room to mature; where good seed and good conditions can both be relied upon, the sowing should be thin enough so that little thinning out by hand will be required. In rows, the plants stand at regular intervals, either being transplanted from the seed bed or cold-frames, such as cabbage or tomato plants, or a few seeds are put into a hill and thinned after the plants get a good start, to one or two more to the best plant, as is frequently done with cabbage or cauliflower to avoid the necessity of transplanting. With both drills and rows, the cultivating is all done in one direction, and when weeding or hoeing is required it must be done by hand, and removing the weeds between the plants. In *hills,* the plants are grown, usually the same distance apart each way, at sufficient distance to allow cultivation with the horse or wheel hoe in both directions; corn, melons and cucumbers are usually grown this way, although for the small garden, worked by hand, I believe that better results from the same amount of ground could be had from planting in rows. The hill system, however, in the case of vine vegetables, gives added convenience by protecting them from bugs during the early stages of growth.

Another small matter, usually overlooked in planning the garden, but one which, however, will give a great deal of satisfaction if attended to properly, is that of providing suitable labels and tags; when eight-inch wooden labels cost only thirty-five cents a hundred (and ten- and twelve-inch ones, if you prefer them, in proportion) there is no excuse for not having the name and date of every planting of flowers and vegetables; information which at the end of the season you will, in a great many instances, be very thankful for.

Adequate plant supports are another item which should be looked out for at this stage; it is much better to put them in first rather than to wait until the plants need supports, for once they have begun to fall over it is very difficult to make them grow straight or to take kindly to a support, and there is more danger of injuring the roots in putting the stake in place when the plants are fully grown. Gladiolus, dahlias and other tall-growing flowers, and tomatoes and pole beans in the vegetable garden, require supports. For the various flowers, plain, round or square stakes painted green, which can be bought at a very low price, are the most convenient things to use. Rough, wooden poles of either cedar or birch are frequently used in the garden; but regular plant supports of two or two-by-four scantling, with laths nailed across at intervals of one to two feet, and of a suitable heighth, are more satisfactory, and if properly looked out for they will last for a number of years; with them it is easier to care for the plants, and a much better bearing surface is exposed to the sunshine than with poles.

Of equal importance with the planting of the seed in the making of the spring garden is the setting out of plants. The first point to learn in connection with this job is how to select the plants when you are buying them; it may be a box of cabbages, a dozen geraniums or a couple of dozen tomatoes—remember that a small, sturdy, stocky plant that looks vigorous and tough will outstrip a tall, lanky or stalky one that has not had sufficient ventilation or hardening off, every time. In the case of buying plants, do not be particular about buying those with blossoms on; as long as you are sure of the variety, a plant with well-developed buds is much to be preferred to a blooming one. In the matter of vegetable plants it is very important that you are sure of the variety, and in the case of tomatoes it is very frequently the case that those of dark green color and stocky form, making splendid growth, are very poor varieties; but they are such very nice-looking plants that they sell more readily than do others to people who do not know. Dwarf Giant and Dwarf Stone, however, are plants of this type which do bear good fruits, and both are very satisfactory for the home garden.

In setting out your plants, both flower and vegetable, make the surface as smooth and fine as you would for sowing seed, and mark out for your rows and the places where the plants are to go just as carefully. If manure and fertilizer is to be added "in the hill" and under the individual plant, it is best to mix it thoroughly into the soil before setting the plants out. A little well-rotted hen manure, or bone flour, or, better still, bone dust and cotton-seed meal mixed, are good for this purpose. In the case of such vegetable plants as cabbage,



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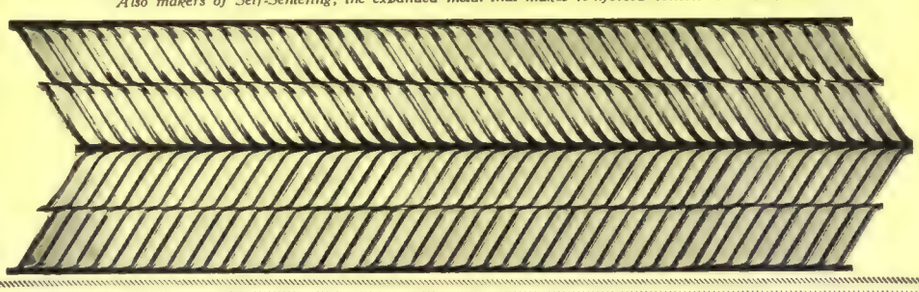
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lettuce or tomato it is usually convenient to open up a drill with the plow attachment of the wheel-hoe, cross-mark it to show plainly where the plants are to be set, drop the manure or fertilizer at the proper point and cover in again with the hand hoe or the plows, reversed, on the wheel-hoe before proceeding to set the plants. In setting out flowers, the hole can be made, a little fertilizer can be dropped in and mixed thoroughly with the soil with the trowel, and the plants set afterwards in these spots before they have dried out and while the soil is still moist enough to make them easily discernible.

One of the chief things to be guarded against in the transplanting either of vegetable plants or of flowers is the exposure of the earth and ball of roots to the sun and wind; it is therefore best, whenever possible, to do the work late in the afternoon or on a cloudy day; when this cannot be managed, take out and drop into the soil only a few plants at a time, and get them in as soon as possible. Never attempt to pull your plants either from the seed bed or from flats, but take up a number together with transplanting fork or trowel and break them apart with as little injury to the roots as possible, or cut them out with a knife. If the leaves are large and succulent trim them back about a half, as this will do a great deal to keep the plants from wilting after they are set, which is very undesirable. If the weather or the soil is exceptionally dry it may be necessary to take the extra precautions when planting of putting a pint or so of water into each hole previous to setting the plants in; it does little or no good to pour water on the surface after the plants are set.

With the fingers of one hand, or with the trowel or dibber, if the earth is packed, make a hole large enough to conveniently take the ball of earth and roots, and placing the plant into it so that it will go deep enough and be covered half way or so up the stem; pack the earth down carefully against it with the thumbs and the knuckles of either hand, so that it will stand up straight and stiff; a plant that looks top heavy or at all wobbly is not set right. In moist soil and in good weather this firming with the hands will be enough; *but,* unless all conditions are favorable, it is safest to go back over the rows and firm the plants into the soil still further by compacting the earth with the balls of the feet, placing one on either side. After the plants are set out, go over the patch with the iron rake and rake the surface off clean and level, which will not only make a much better-looking job, but will also destroy any sprouting weed seeds and leave the surface with that fine, dry soil mulch which is so much to be desired.

These instructions apply also to the numerous little jobs of replanting which have to be attended to in the spring. The hardy perennials are increased by "di-

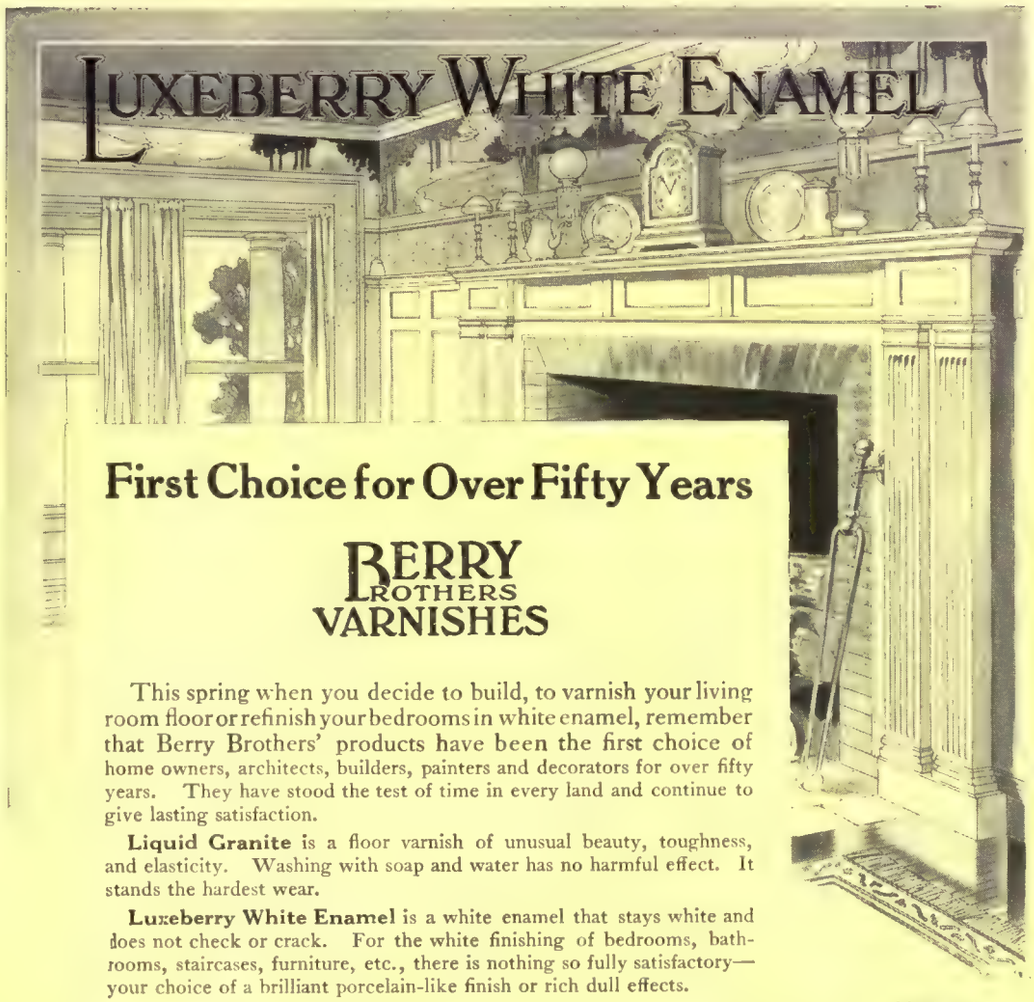
vision"—the separating up of the clumps of the old roots into two or more parts. Then set out or discard the extra plants. Enrich the soil, before replanting part of the clump, with old manure or with a little bone flour.

Many of the flowers whose habit of growth is in thick clumps will be found after a few years to be decreasing in size and number of blossoms. This can usually be remedied by division and replanting, especially if the soil is enriched as suggested. Plants that cannot conveniently be moved should be given several copious waterings during early spring with liquid fertilizer or liquid manure, especially about the time the buds are beginning to form.

On small places, where it is necessary to make the flower gardens not far from large trees, most of the plant foods designed for the flower beds are frequently stolen by thieving tree roots. To avoid this, cut down a foot, or even two feet, into the soil all around the edge of the bed with some sharp instrument such as an edger or a hay knife. The best time to do this is just before breaking the beds up in the spring, so that pieces of roots near the surface can be forked up, shaken out and removed.

On the place that is being steadily improved every spring should see at least a few of the newer shrubs, bush fruits or small fruit trees set out. There are many small gardens in which dwarf fruits might perfectly well be grown, which go from year to year without fruit of any sort whatever. In setting out these things the same care should be exercised not to expose the roots to sun and wind while transplanting. The ground should be prepared in advance, and any manure or fertilizer added. The holes should be made large enough so that the roots of shrubs or trees can be set into them without cramping and bending. Any roots which may have been broken or bruised in shipment should be cut back with a sharp knife to firm, hard wood. The tops also, unless they have been cut back before shipping, should be pruned in, in most cases a third or so. In planting, after the shrub or tree has been set in its place in the hole, pack the earth in well around the roots with the fingers, so that no air spaces will be left. Then, as the hole is filled up, stamp the earth firmly into the hole with the foot, or with a blunt stick. If the soil is very dry, pour in a generous quantity of water, wait until it soaks away, and then complete the filling. A summer mulch will help newly set trees to come safely through the dry season.

After these preliminaries, it would be a good plan to go over the lawn with the mowers. This will clear away any rough patches and improve the general appearance of the place.



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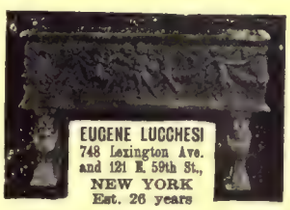
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Quality Crops for the Home

(*Continued from page* 281)

proximity to field corn, has become tainted—for corn will "mix" the first season when it gets an opportunity. It is to the varieties found in these two classes that, personally, I would award the palm for that nectar-like sweetness and melting tenderness which elevates corn into a dish for the gods!

Of the extra Earlies, the several varieties of Cory are still very popular, especially for market planting, but I think that such sorts as Metropolitan and Howling Mob are far superior in quality, and they are practically as early. Stabler's Early, Cosmopolitan and Hiawatha are three sorts which have largely superseded the old Crosby's Twelve-rowed as medium sorts. Stowell's Evergreen and White Evergreen, an improved Stowell's, are unexcelled as late sorts. Mammoth Late is even later than Stowell's, and of equally good quality. Of the "shoe-peg" sorts, that old favorite, Country Gentleman, which has delighted the palates of the particular for nearly a quarter of a century, has not, so far as I know, yet been improved upon. It is ready for table a little sooner than Stowell's.

As to the colored sorts, not many years ago there was just one sort that was used to any extent. That was Black Mexican, which, in spite of its unattractive color, was still appreciated by the discernihng few for their private tables. Then came Golden Bantam; which, on account of its surpassing deliciousness, remarkable hardiness and "catchy" name, was within two or three seasons known from one end of the country to the other. Since then there have been a number of "golden" corns. I have not yet come across any so early as Golden Bantam; though not "flint"-grained, may be planted as early as the white extra earlies—and none is superior in flavor. Some of the others have larger ears, and, maturing a little later, do well to use for a succession planting. Without doubt, we will soon have a complete "set" of golden varieties. Earliest Catawba is another early colored sort of the utmost sweetness and tenderness imaginable. It matures a little later than Golden Bantam; the grains are tinged with light purplish-red, which increases as they ripen. The ears are a little small, but they are produced freely.

Cosmopolitan, Country Gentleman, Stabler's Early and White Evergreen make a good combination planting. I have planted Golden Bantam, Catawba, Seymour's Sweet-Orange, Black Mexican and Country Gentleman side by side, and, though they colored each other somewhat (spoiling the ears for *seed,* but not injuring the quality), and mature too quickly after each other to make an ideal successive planting, still they come along in the order named, and make a combination that for quality is hard to beat, if you like the extra sweet corns.

It is a simple matter to have corn from one to two weeks earlier than you have been having it, and that without resorting to any of the inferior extra-early varieties. Of course, starting and transplanting corn as you would lettuce or tomato plants would not be practical. But here is a simple method which I have used the last two years with success. Procure a hundred or so square paper-pots, or "dirt-bands." Pack these into flats, or directly into the cold-frame, and shovel them full of light, rich soil, filling the interspaces with soil or moss. Plant in these, putting only four or five kernels to a pot, as practically every one will sprout if the seed is good. Start them two to four weeks before it is safe to plant outside, and keep them in a warm, sunny place protected from frost at night, and well watered. Do not set outside until the weather is settled and warm—usually when the trees are well out in leaf. Then set quite deeply; that is, so the surface of the pots will be two or three inches below the surface; and under or near each hill put a good handful of hen-manure and ashes or half a handful of bone flour and cotton-seed meal. Be sure to give plenty of ventilation while the plants are growing in the frames, and to harden off well before setting in the open.

The soil most fancied by corn, where any choice may be given, is that which is well drained and "warm." But it should do well enough in any good garden soil. It is a good plan to put your sweet corn on greensward, or on any part of the garden which you may want to get into extra good shape for the following year. It is a splendid preparer, or antecedent crop,—and the planter with a small garden should plan his "rotations" and successions as carefully as the farmer. The part of your garden which is to be occupied by corn should be forked up or plowed as long in advance as possible, so that it will have time to be thoroughly warmed up.

Corn is a strong forager and does not require coddling in the way of plant-food; but an adequate amount of nitrogen during the earlier stages of growth and an abundance of potash during the latter stages are necessary for best results. Either manure or fertilizer may be used. It is a good plan to manure the corn section of the garden generously each year, and shift it around, following it with root crops, to which it is not so desirable to apply manure. Where manure alone is used on the corn patch, a suitable dressing of ashes, or of muriate or sulphate of potash, should be raked into the soil before planting. If fertilizer has to be relied upon, give a good dressing of a high-grade or market-garden brand. A fraction of a handful of nitrate of soda worked in about each hill at the time of the second hoeing will give the

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leaves that desirable dark-green color and the plants a strong start.

One of the fine points about getting sweet corn early is to pick just the right time for planting. The inferior-quality extra earlies can go in about as soon as danger from hard frosts is over—from middle of April to middle of May, according to locality and season. But the later real "sugar" sorts, in damp, cold soil, are pretty sure to pot. The trees are usunally well in leaf before it is safe to plant them. Covering the seed for the first planting an inch or so deep will often save seed that would otherwise be lost. Quick-growing varieties, such as Cosmopolitan and Golden Bantam, may be planted until as late as the first to the middle of July, to furnish a supply of ears for late fall, until killing frosts. Ears that are fairly well developed will usually mature even after the foliage is touched by the first frosts. These late plantings should be made quite deep, especially if the soil is very dry near the surface. Under such conditions, three inches will not be too much.

It is the general practice to plant corn in "hills." People have the habit of doing it that way. They got the habit because, where corn is planted in large areas, it is convenient to "work" it both ways with a cultivator, to save hand work. But in the case of the person with a small garden no such reason exists. I am convinced that more and better corn may be grown, with no more trouble, by sowing thinly in drills. The stalks left to mature should stand six to nine inches apart. Some thinning may be required; but this usually is, or should be, done where it is planted in hills. But the individual stalks will have more room in which to develop, and there will be more of them. Besides this, especially if the rows run east and west—which is preferable, if it can conveniently be managed—the ground will be shaded sooner and better than where the stalks are growing in hills; an item well worth considering in a dry season.

Another old method which is still persistently clung to in the small garden is to "hill up" corn as much as possible. Except on heavy soil or during a very wet season there is no reason for doing this; in fact, there are good reasons for not doing it. In the first place, corn is a very shallow feeder, the roots running near the surface, and where earth is heaped up in a series of little mounds it naturally dries out much more quickly than where it is left level. Then, too, high hilling makes it more difficult to keep the ground clean to the end of the season; and to spade up and prepare again for the following crop.

Corn requires a great amount of water. Therefore, cultivation should be frequent enough to maintain an effectual dust mulch all the time. But, as the root system develops near the surface of the soil, you will have to be very careful, espe-

cially after the first one or two cultivations, to work your hoe or wheel-hoe very shallow. It is all right to work some soil up about the stalks, especially in smothering out little weeds that have just started, but with a small, narrow-bladed hoe, with which you can cut quickly and easily next to the stalks, or between them if they are growing in a continuous row, as suggested above, not much of this will be necessary. Be careful to pull out any large late weeds before they go to seed.

After the ears are pulled, cut the stalks off clean, whether you have use for them as forage or not. Do not leave them to grow on, wasting useful plant-food, making hard "clumps" of roots and stalks that will be in the way for the next "fitting" of the ground, and sheltering late weeds and insect pests or their eggs.

This series of Quality Crops for the Home was begun in the January issue, which dealt with the growth of peas; February, salad plants; March, the root crops. Each of the divisions of the home vegetable garden will be taken up from the standpoint of quality, not only in selecting the right seed, but also in the best cultural directions. With the other articles in this issue, on pages 282 and 283, this series should bring success in growing better vegetables than can be bought.—EDITOR.

A Garden Plan for Every Man

(Continued from page 277)

9 *Scabiosa Caucasica,* 18", blue bonnet, June. 1 foot apart.
10 *Caryopteris mastacanthus,* 3', blue spirea, Sept.-Nov. 15 inches apart.

YELLOW WITH SCARLET

1 *Phimula vulgaris.* 8 inches apart.
2 *Doronicum Caucasicum.* 1 foot apart.
3 *Baptisia tinctoria.* 1 foot apart.
4 *Hypericum Moserianum.* 15 inches apart.
5 *Chrysanthemum,* "Boston." 18 inches apart.
6 *Aquilegia Canadensis,* 18", native Columbine, May. 1 foot apart.
7 *Papaver orientale,* 18", poppy, June-July. 8 inches apart.
8 *Pentstemon barbatus,* 3', beard tongue, June-August. 18 inches apart.
9 *Gaillardia grandiflora,* 2-3', blanket flower, June-Sept. 15 inches apart.
10 *Tritoma Pfitzeri,* 3', red-hot poker, Sept.-Nov. 15 inches apart.

YELLOW WITH BLUE

1 *Doronicum Caucasicum,* 2', leopard's bane, May. 1 foot apart.
2 *Trolius Europaeus,* 2', globe flower, May-August. 1 foot apart.
3 *Hemerocallis Thunbergii,* 3', tawny day lily, July. 1 foot apart.
4 *Hypericum Moserianum,* 2', St. Johns'wort, June. 15 inches apart.
5 *Chrysanthemum,* "Globe d'Or," 2', hardy chrysanthemum, Sept.-Nov. 18 inches apart.
6 *Funkia caerulea,* 18", plantain lily, June-July. 1 foot apart.
7 *Linum perenne,* 18", flax, July. 1 foot apart.
8 *Anchusa Italica,* "Dropmore," 3', Italian alkanet, May-July.
9 *Veronica longifolia subsessilis,* 3', Speedwell, July-August. 1 foot apart.
10 *Delphinium belladonna,* 3-5', Larkspur, July. 18 inches apart.

Border Planting

1 *Rosa rugosa,* Japanese rose, June. 3 feet apart.
2 *Lonicera Halliana,* honeysuckle, all summer at fence post or 10 feet apart.
3 *Lonicera Belgica,* woodbine, Chinese honeysuckle, late summer. As above.
4 *Clematis paniculata grandi ora,* Virgin's bower, Aug. As above or as indicated.
5 *Rosa rubiginosa,* sweet briar rose, June-July. Every 6 feet.
6 *Rosa,* "Dorothy Perkins," climbing rose, July. As indicated.
7 *Althea rosea,* mixed hollyhock, July-August. 18 inches apart.
8 *Digitalis lanata,* Foxglove, June-July. 15 inches apart.
9 *Delphinum, belladonna,* Larkspur, June and on if cut back. 18 inches apart.
10 *Veronica longifolia subsessilis.* Speedwell, August. 1 foot apart.
11 *Phlox,* assorted as preferred. Phlox as selected June-July. 15 inches apart.
12 *Dianthus barbatus,* Sweet William, June. 10 inches apart.
13 *Anemone Japonica,* "Queen Charlotte," Sept.-Oct. 10 inches apart.



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The Special Uses of Garden Plants

(*Continued from page 264*)

year, although most of them bloom in the spring, and perennials may take up the color sequence in the garden. If you keep in mind the necessity of flowing lines you will be successful in shrubbery planting. Note how a coast line is irregularly indented by bays and sends out peninsulas and points or capes. This is the effect shrubs should give. Keep in mind the desirability of using few varieties together. The great, white masses of snowball or *spiræa,* shaded with the lilac blossoms, make better pictures than where many varieties of form and shade and color are mixed. Look through a list for shrubs that are beautiful for their berries or bark in fall or winter, and strive to use some of the low evergreens for borders. There are a few specialties that are not in the subjoined list, to which you may be partial. The flowering almond, with its delicate white and pink double flowers, is very hardy; then the magnolia, with its cloud of great, waxy flowers in the spring, or the dogwood, where you have a vista, and want the white flowers early in the season and the berries later. The sumacs (*rhus*) are attractive for fall color, and *rhus cotinus,* the smoke bush, is an old-fashioned and pleasing shrub.

Rhus Canadensis flowers in the spring before the leaves appear. This is one of the best cover shrubs. It will flourish in any soil and is especially adapted to dry, rocky banks. Its flowers are yellow.

Here follows a simple list of annuals and perennials and shrubs, with data that will help to fit them in your garden scheme:

SHRUBS

(*Blooming in April*)

DAPHNE (*Daphne Mezereum*)—Three feet high; lilac flowers.

GOLDEN BELLS (*Forsythia Fortunei*)—Eight feet; yellow flowers.

(*Blooming in May*)

BARBERRY (*Berberis Thunbergii*)—Four feet; yellow (berries).

FLOWERING PLUM (*Prunus triloba*)—Five feet high; pink flowers.

BUSH HONEYSUCKLE (*Lonicera Morrowi*)—Six feet; white flowers.

SPIRAEA (*Spiraea Van Houttei*)—Eight feet; white.

HIGHBUSH CRANBERRY (*Viburnum opolus*)—Twelve feet; white (berries).

LILAC (*Syringa vulgaris*)—Twelve feet; white and lilac.

(*Blooming in June*)

SHRUBBY CINQUEFOIL (*Potentilla Fruticosa*)—Three feet; yellow.

DENTZIA (*Dentzia Crocilis*)—Three feet; white.

MOCK ORANGE (*Philadelphus Coronarus*)—Five feet; creamy.

WEIGELIA (*Diervilla floribunda*)—Six to eight feet; crimson.

RED OSIER (*Cornus sanguinea*)—Twelve feet; white (berries).

(*Blooming in July*)

STEEPLE BUSH (*Spiraea tomentosa*)—Four feet; purple-pink.

OAKLEAVED HYDRANGEA (*Hydrangea quercifolia*)—Four to six feet; white.

PANICLED HYDRANGEA (*Hydrangea paniculata*)—Ten feet; white.

(*Blooming in August*)

PURPLE FRUITED CALLICARPA (*Callicarpa purpura*)—Four feet; pink.

HIBISCUS (*Hibiscus Syriacus*)—Twelve feet; white and pink.

(*Blooming in September*)

BLUE SPIRAEA (*Caryopteris mastacanthus*)—Four feet; blue.

ANNUALS

In the following descriptions the first two figures after the names of the flowers indicate the distance apart for planting. The third and fourth figures indicate the height of the plants.

NOTE—C, flowers especially for cutting; S, flowers thriving in partial shade; P, flowers that should be started early under glass, or purchased from the florist.

While most of these can be sown in the open ground in May or early June to flower the same year, quicker results will be had if they are started early in flats, in the hotbed or window, and transplanted. With some (marked "P" above) it is quite necessary to do this. With annuals especially it is important *to keep the flowers cut off* before ripening seed if a long season of bloom is wanted.

AFRICAN DAISY—6-10 in.; 12-15 in.; color, rich, various; flowers June to frost. New profuse flowering plants, good for beds and borders.

AGERATUM—6-12 in.; 12 in.; color, blue, white; flowers June to frost. Popular old-fashioned plants for edging. P.

ASTER—12-24 in.; 18-30 in.; color, various; flowers July-September. Protect from aster beetle by hand picking and Paris green. P. C.

BACHELOR'S BUTTON—6-10 in.; 15-24 in.; color, blue, white, pink; flowers July. Old favorite for borders. S. C.

BALSAM—15-20 in.; 10-18 in.; color, various; flowers June-September. Use in foreground, where individual flowers will show.

CALENDULA—12-18 in.; 18-24 in.; color, orange, yellow; flowers June to frost. Very free flowering; masses or borders.

CALLIOPSIS—8-10 in.; 12-18 in.; color, yellow (orange-brown); flowers June-September. Of very quick growth, and free flowering. C.

CALIFORNIA POPPY—6-8 in.; 12 in.; color, orange, yellow; flowers August. Sow early. Beautiful in solid beds. Fine new varieties.

CANDYTUFT—4-12 in.; 6-18 in.; color, white, crimson carmine; flowers June-September. Good for solid masses of color, especially white. C.

CASTOR BEAN—24-36 in.; 50-90 in.; color, foliage; flowers July to frost. Very rapid grower; screening and tropical effects. S.

CHRYSANTHEMUM—12-18 in.; 12-36 in.; color, various; flowers August-October. Very easily grown and very showy.

CLARKIA—8-10 in.; 18 in.; color, white, rose, purple; flowers June-September. Bright daisy-like flowers, pretty foliage. C.

COCKSCOMB (*Celosia*)—8-18 in.; 6-18 in.; color, white, red, yellow, purple; flowers June to frost. Satisfactory borders, especially for long lines of color.

CORNFLOWER—8-12 in.; 12-40 in.; color, white, blue, lilac; flowers June-August. Greatly improved. One of the best *blue* flowers. C.

COSMOS—24 in.; 2-8 ft.; color, white, pink, red; flowers August to frost. One of the most beautiful of annuals. Start early. P. C.

GLOBE AMARANTH—10-15 in.; 18 in.; color, pink; flowers July. Also for borders and masses. C.

GODETIA—8-12 in.; 12-24 in.; color red, white; flowers July-October. Good for masses. C. S.

GOURDS—12-24 in.; 5-15 ft.; color, colored fruits; flowers July to frost. Climbers. Fruits of various shapes and colors.

GYPSOPHILA—6-15 in.; 12-24 in.; color, white; flowers June-September. Valuable for bouquets. Make several plantings. C.

LARKSPUR ANNUAL—6-12 in.; 18-36 in.; color, white, blue, pink; flowers June-July. Rich colors. Another of the best blue flowers. C.

LAVATERA—8-12 in.; 3-6 ft.; color, rose; flowers July. Another good screening plant.

LOBELIA—4-8 in.; 6-18 in.; color, blue, white; flowers June-September. Beautiful for low borders and edges; also in mass. S.



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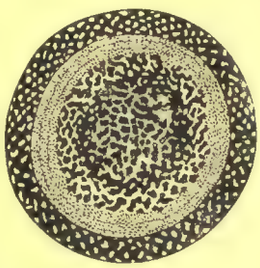
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LUPINE—4-8 in.; 12-24 in.; color, white, blue, pink; flowers June. New varieties give a range of colors. C. S.

MARIGOLD—6-18 in.; 10-36 in.; color pale gold to orange; flowers July to frost. Great variety. Dwarf sorts good for edgings.

MIGNONETTE—6 in.; 12-18 in.; color, golden to reddish yellow; flowers July-September. Prized for its delicious fragrance. Second planting in August. C.

MOONFLOWER—6-18 in.; 15-30 ft.; color, white, blue; flowers August to frost. Most beautiful annual climber. Start under glass. P.

MORNING GLORY—4-12 in.; 10-20 in.; color, various; flowers July-September. Flowering annual for quickly covering fences, etc.

NASTURTIUM—5-12 in.; 12-60 in.; color, various; flowers July to frost. Wonderful improvements, especially in the foliage. C. S.

NICOTIANA—8-12 in.; 3-5 ft.; color, white, red; flowers July to frost. Unique, pretty flowers with a jessamine-like fragrance.

PANSY—6-8 in.; 6 in.; color, various; flowers May to frost. Get *young*, small plants for best results. P. C.

PETUNIA—8-12 in.; 12-24 in.; color, white to claret, mixed; flowers July to frost. Wonderfully free-flowering and showy. S.

PHLOX DRUMMONDI—8-12 in.; 12-36 in.; color, various, brilliant; flowers July to frost. Splendid for solid beds, or medium height bright edges.

PINKS (*Dianthus*)—5-8 in.; 10-18 in.; color, white to rose; flowers August to frost. One of the most satisfactory of all summer annuals. C.

POPPY—4 in.; 6-10 in.; color, white to scarlet; flowers July-September. Will not transplant well. Most effective in mass beds.

PORTULACA—4-6 in.; 6-10 in.; color, white, yellow, red shades; flowers July to frost. Cheery, old-fashioned favorites; full sun, sandy soil.

SALPIGLOSSIS—6-12 in.; 12-24 in.; color, various; flowers June-September. Wonderful velvety texture and delicate pencilings. C.

SALVIA—6-12 in.; 12-36 in.; color, scarlet; flowers August to frost. For mass effects the most vivid of all red flowers. P.

SCHIZANTHUS—8 in.; 24 in.; color mixed, yellow to lilac; flowers July-August. Good for masses when blossoms are scarce.

STOCK—6-12 in.; 12-24 in.; color, various; flowers June-September. Beautifully formed; delicate shades; very fragrant. C.

SUNFLOWER—24-36 in.; 3-7 ft.; color, yellow; flowers August-September. Very rapid growing; useful for screening fences, etc.

SWEET ALYSSUM—4-8 in.; 8-10 in.; color, white; flowers May to frost. Still the most popular of edging plants. S.

SWEET PEA—4-8 in.; 2-6 in.; color, various; flowers June-September. For best results start inside in pots, and set out in April. C.

THUNBERGIA—4-10 in.; 3-8 ft.; color, white, yellow, orange; flowers July-September. Good for low trellises and vases.

TORENTIA—6-12 in.; 8-15 in.; color, blue, white; flowers July-September. Unique; good for vases and hanging baskets.

VERBENA—12-18 in.; 6-9 in.; color, various; flowers July to frost. One of the brightest, cheeriest and most free-flowering.

ZINNIA—8-12 in.; 12-24 in.; color, various, brilliant; flowers July to frost. Brilliant of color; dwarf, red sort splendid for borders.

BIENNIALS

These should also be sown every year, that flowers for the year following may be provided. They may be started in May or June and transplanted later to their permanent places. Foxglove and other short-lived perennials are best treated in the same way.

CAMPANULA—8-12 in.; 18-36 in.; color, white, blue, pink; flowers June-August. Still popular for both beds and borders.

FORGET-ME-NOT—6 in.; 6-12 in.; color, blue, white; flowers April-July. The best blue edging plant; the most dainty. S.

FOXGLOVE—10 in.; 12-36 in.; color, pink, white, various; flowers June. Very easily grown; old favorites for the border.

HOLLYHOCK—12-18 in.; 3-7 ft; color, white, yellow, scarlet, rose; flowers August-September. Especially valuable against high walls. Gorgeous colors.

SWEET WILLIAM—6-12 in.; 12-18 in.; color, white, pink, red; flowers July-August. Still one of the very best border plants. C.

WALL FLOWER—6 in.; 12-30 in.; color, brown, yellow; flowers July-September. Fragrant. Early sorts may be treated as annuals. C.

PERENNIALS

Many of these, if sown early under glass, will flower the first year—some, even from seed sown in the open. They should be grown to fair size in the seedbed and then transplanted to permanent quarters. The border of hardy perennials should be one of the most beautiful spots in the garden.

ALYSSUM (*Saxatile*)—6-12 in.; 12 in.; color, golden yellow; flowers May-June. Especially useful around rock-work, bases, etc.

AQUILEGIA—10 in.; 12-36 in.; color, various; flowers June-July. Greatly improved. Very graceful. C.

ADONIS—6 in.; 12 in.; color, yellow; flowers May-June. Good early flower for border.

ANEMONE—12 in.; 12-36 in.; color, white to rose; flowers August to frost. Should have a place in every garden; extremely beautiful. C.

BELLIS—4-6 in.; 6-8 in.; color, white, pink, red; flowers April-July. Low-growing, beautiful little daisies, extremely attractive.

BLEEDING-HEART—12-18 in.; 24-30 in.; color, purple, pink, white; flowers May-June. Peculiar heart-shaped flowers in graceful sprays. S. C.

CANDYTUFT (*Iberis*)—6 in.; 9 in.; color, white; flowers May-June. A hardy form of the annual above.

CHRYSANTHEMUM—12-18 in.; 24-40 in.; color, various; flowers August to frost. If started early, will flower first year. C.

COREOPSIS—12-15 in.; 24-36 in.; color, golden yellow; flowers June to frost. Free-flowering, for the hardy border. C.

DAHLIA—24-36 in.; 2-4 ft.; color, various; flowers July to frost. Easily grown; likes very rich, heavy soil. C.

FOUR O'CLOCK—10 in.; 30 in.; color, yellow, white, red; flowers July-August. Midsummer; good for border.

GAILLARDIA—10-12 in.; 18-24 in.; color, yellow, crimson; flowers July to frost. If sown early, will bloom first year. C.

HELIOPSIS—8-15 in.; 3-4 ft.; color, yellow; flowers July-September. Good for mass effects in background.

HELIANTHUS—2-4 ft.; 2-10 ft.; color, yellow; flowers August to frost. The improved types are truly gorgeous.

IRIS—12-18 in.; 18-30 in.; color, various; flowers May-July. Some of the shades beautiful as orchids. C.

LARKSPUR—12-18 in.; 3-4 ft.; color, blues; flowers July-September. Best blue flowers for the border.

MONKSHOOD—10-15 in.; 36 in.; color, blue-white; flowers July-August. Good for borders, but poisonous.

PEONY—24 in.; 24-36 in.; color, red, pink, white; flowers May-June. Most showy of all border plants. P. C.

PHLOX (Hardy)—12-18 in.; 12-36 in.; color, various; flowers July-September. Permanent and satisfactory border plants. P. C.

PINK—6-10 in.; 8-12 in.; color, various; flowers August-September. Beautiful colors; one of the best for cutting. C.



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POPPY (Iceland)—6 in.; 12-18 in.; color, white, yellow, orange; flowers May-September. Flowers on long, stiff stems. Continuous bloomers. C.

POPPY (Oriental)—12-18 in.; 24-36 in.; color, crimson shades; flowers June-August. Enormous, brilliant flowers; vigorous growth.

PRIMROSE—4-5 in.; 4-6 in.; color, yellow, pink; flowers April-May. Pretty, early flowers for border or edging.

PYRETHRUM—8-12 in.; 12-24 in.; color, various; flowers August to frost. Very attractive little edging plant.

RUDBECKIA—12-18 in.; 4-7 ft.; color, yellow; flowers August-September. Good for screening and mass. Rank grower. P. S.

SCABIOSA—8-12 in.; 15-30 in.; color, white, various, and blue; flowers June-August. Fine light-blue flowers for cutting, blooming very freely. C.

SILENE—5-6 in.; 4-5 in.; color, white to rose; flowers June-August. Low-growing plant, good for masses or broad edgings.

SNAPDRAGON—8-12 in.; 24 in.; color, various; flowers July-September. One of the finest flowers for cutting. Hardy with protection. P. C.

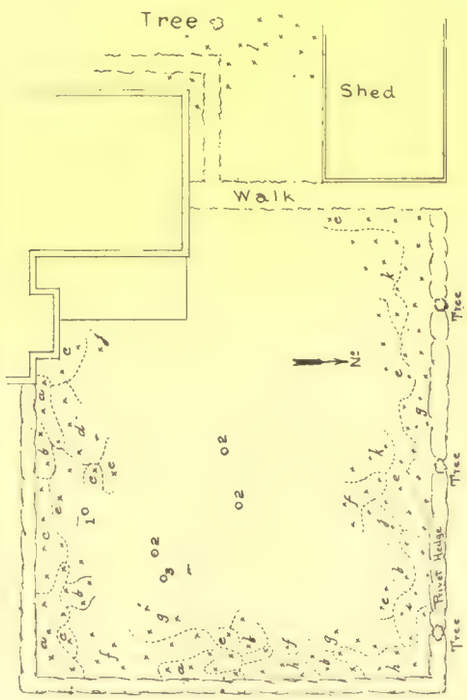
VERONICA—8 in.; 24-30 in.; color, purple; flowers August. Good for edging.



An Outdoor Living Room

THE space here available is, roughly speaking, 40 by 50 feet; the trees on the north are already established. Further shade will be needed, however, as the afternoon sun now shines on the entire plot. A Sycamore, two Lindens and two Catalpas have therefore been indicated; these are placed where their shadows will fall across the larger portion of the enclosure during most of the day.

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Plan for outdoor living-room

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rounding the entire space with a hedge of California privet (*Ligustrum ovalifolium*), set in two rows, 9 inches apart and 9 inches between the plants. This hedge, though cut back to a height of 10 inches at the time of planting, is to be allowed to grow 8 feet high ultimately; it will form an impenetrable wall 3 feet or more in thickness by such time, and may be kept sheared or allowed to grow in its natural form. A certain measure of shearing is advisable to preserve the density, however; therefore, it will be well to cut back the top once a year, and to trim the outer side at least as often as this, sloping it in so that it is narrower at the top than at the bottom. The inside may grow naturally, and its shoots mingle with the shrubbery planted against it.

The individuals that go to make up this shrubbery mass should be planted as shown by the little crosses. Half-grown specimens that range from 2 to 3 feet in height will produce a very satisfactory result by the third summer—indeed, they will give the effect the second summer if they do well and conditions favor them, particularly if they are planted in the fall. Shrubs of this medium size are preferable to larger ones, and should be chosen always for best results.

Some of the large, strong growing lilies may be introduced effectively at intervals against the shrubbery; peonies are also suitable for such a position, as well as iris. Plant all these in clumps, where the opportunity offers, close against or actually in among the shrubs.

Following is the planting key: a—*Hibiscus Syriacus;* b—*Forsythia Fortunei;* c—*Syringa vulgaris;* d—*Weigela, "Eva Rathke;"* e—*Deutzia crenata fl.pl.;* f—*Spiræa Van Houttei;* g—*Ligustrum Ibota, Regelianum;* h—*Viburnum opulus;* i—*Cornus stolonifera;* j—*Philadelphus coronarius;* k—*Hydrangea paniculata, grandiflora;* l—*Berberis vulgris.*

The trees are: *Plantanus orientalis;* 2—*Catalpa speciosa;* 3—*Tilia Americana.*

Putterin' 'round the Garden

(*Continued from page 261*)

the flowers are in bloom, when the ornamental (I insist) screen is covered with mountain fringe and the trellises with clematis and ipomoea, when the fish are swimming in the pool and the birds splashing in their bath, visitors will admire my garden, but I shall not. I shall still go putterin' 'round at new tasks and improvements, content merely that the work of this spring has come to fruition and restless for new worlds of stubborn soil or unplaned posts to conquer.

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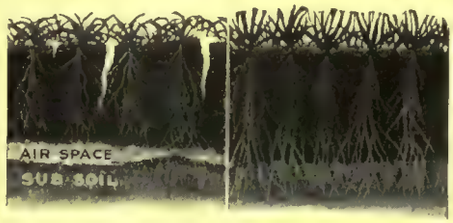
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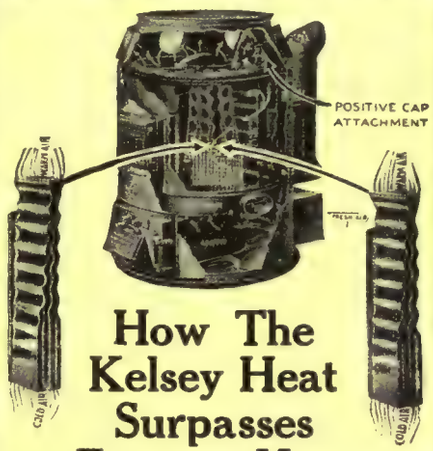
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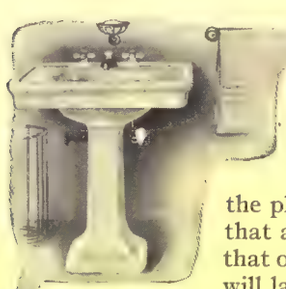
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Mr. Dodson is a Director of the Illinois Audubon Society.

So I would have ended, but my wife insists on a postscript. "You will please to add," she says, "a statement to the effect that *I* built half the long trellis, and painted it, too. Perhaps I can't dig a post hole, but I nailed on nearly all of the stripping, and had to renail some that you did, because you thought your eye was superior to the level, and put it on down hill. It's small credit that *you* can drive a nail. But that *I* can is a positive triumph. This is the age of feminism. I insist on putterin', also."

So I welcome my wife, and all of her sex who possess the courage to spoil their complexions and their nails, the imagination and the strength of back and fingers, into the noble army of garden putterers!

BOOK REVIEWS

PRODUCTIVE SWINE HUSBANDRY. By G. E. Day. J. B. Lippincott & Co. 330 pp.

This book was designed to be, and has succeeded in being, equally valuable as a text-book for the agricultural student, and as a reference work for the practical farmer, whether the professional breeder or the small farmer with only a few animals to care for. Types and breeds of swine are thoroughly described and discussed. The practical points of breeding and of selection are taken up and the question of feeds and feeding from the point of view of both results and economy is gone into very thoroughly. Chapters cover Pastures and Soiling Crops, Preparation of Feed, Markets and Swine Products, Curing, Buildings, Sanitation, Common Diseases, and instructions as to the care of the boar, the sow, and the young pigs. The chapters, "The Place of the Hog Upon the Farm," and "Suggestions to Beginners," are especially good. The book is freely illustrated throughout with photographs and with line drawings showing the different types of animals, buildings, pens, labor-savng devices, etc. A series of questions at the end of each chapter is of value in fixing the salient points in the mind of the reader.

TREES IN WINTER—Their Study, Planting, Care and Identification. By Albert Francis Blakeslee, Professor of Botany, Connecticut Agricultural College, and Chester Deacon Jarvis, Horticulturist, Storrs Experiment Station. Fully illustrated. The Macmillan Co., New York. Price, $1.25.

This is a comprehensive and beautiful book. Part I deals with the Planting and Care of Trees, and covers such matters, structure and growth of trees, propagation of trees, use and care of trees for improving rural districts, towns and cities, and for home decoration, for both summer and winter effect. The chapter on the selection of trees for special purposes is of especial usefulness. The various phases of plant-

ing, care, injury and repair of shade trees, parasites and their control, insecticides, fungicides and spraying, spraying machinery and pruning are all covered in a detailed and authoritative way. The second part of the work takes up the identification of trees, and is profusely illustrated with excellent photographs showing habit of growth, bark, twigs, etc., of each of the scores of trees described. A glossary, explanation of terms, and a key to genera and species add to the value of this part, and there is a thorough index covering the whole. It is an indispensable book for any person interested in our native trees and their care.

Garden Suggestions and Queries

(*Continued from page 294*)

it. If a very cold day should come it will not hurt them to be kept dark. Sash covered with "plant cloth" are very useful for this purpose, and cost little.

While you are hardening off your cabbages be careful not to chill and stunt your tomatoes and eggplants. These are warm-weather things, and likely to require all the warmth you can give them at night in a frame, and up to 70, or even 80, degrees in the day. But don't neglect giving enough ventilation to keep them strong and healthy. If there is no "heat" in the frame, keep the glass covered at nights with mats or shutters. Double-glass sash are especially good for the tenderer vegetables and flowers. They are a great boon to the gardener who has to get along without a green-house.

Two to four weeks before it is safe to plant such tender things as cucumbers, melons, lima beans and sweet corn, or such bulbs as cannas, dahlias, tuberous begonias or calidiums, you may gain a great deal by starting them in the square paper pots, which may now be bought so cheaply. They come "flat," and you can make up a few dozen over the block of wood that accompanies them in ten minutes. Simply fill the pots, packed close together, with rich compost, and plant the seeds or bulbs. (Lima beans, remember, go eye down, edgeways, and rot very easily if you water them too much before they sprout.) *Don't let the pots dry out.* Don't set them in the open until all danger of frost is over, and harden them off well first.

Pruning.—If your roses have not already been pruned, attend to them at once. Cut back to good live wood, no matter if there's nothing left but a stump. The more severe the pruning, the bigger and better the flowers, but there won't be so many of them. This doesn't apply to climbers and Rugosas. Always cut to an *outside* eye, so the bush will grow to an open centre. Besides roses, some of the flowering shrubs may be pruned now—those which bloom after mid-summer and in fall, as a general rule. The others flower on last year's wood, and cannot be cut back now without sacrificing flower-buds already formed.

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TAKING CARE OF MANURE—Whether manure is made on the place or bought, it should be kept under cover, preferably in a pit with a cement bottom so that all the liquid shall be saved. If it shows a tendency to heat too much and becomes fire-fanged and burned, it should be turned and tramped down firmly into a square heap, sprinkling it with water if it is very dry. If it can be turned, in fact, several times before using, so much the better. Aim to get it just as fine, well rotted, and "mellow" as possible before using it.

In buying manure, try to get that which is in good condition and well rotted, and remember that its value will depend very largely upon the richness of the food fed the animals; therefore, manure from a livery stable or from a good dairy farm, other things being equal, is likely to be worth much more than that from scrub farm stock.

FERTILIZERS—Fertilizer is a general term applying to almost any old thing which can be sold in a bag. The high-grade, high-priced goods, costing anywhere from forty to forty-five dollars a ton are, almost invariably, much cheaper than the low-priced goods, costing twenty-five to thirty-five dollars a ton. For garden use, a complete fertilizer, analyzing 4 per cent nitrogen, 8 per cent of available phosphoric acid and 8 per cent of potash, will give good results.

MIXING OF FERTILIZERS—It is not, however, necessary to buy a ready-mixed brand. You can readily mix your own with a square-pointed shovel and a screen on any tight floor or in any large, tight box. Here is a good mixture: 250 pounds of nitrate of soda, 500 of tankage, 700 of acid phosphate, 400 of muriate or sulphate of potash; or, for small amounts, in about those proportions—say 25 pounds nitrate of soda, 50 of tankage, 75 of acid phosphate and 50 potash. This will give approximately a 4-8-10 mixture, fully equal to any you can buy and considerably cheaper.

Place the materials in layers on the floor or in a box, in a square heap, putting the bulkiest at the bottom, and mix *thoroughly* with a shovel or a hoe; then run through a coal sieve or a sand screen.

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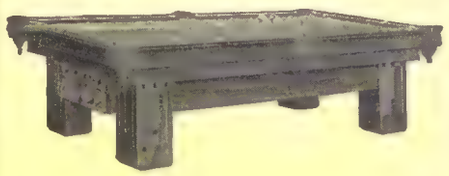
show the number of pounds of any material required to give 1 per cent in a ton. If the total number of pounds does not figure up to an even two thousand, it will make no difference, as it is the number of pounds of actual *plant food* only which is required.

TOP DRESSINGS—A further advantage in buying the separate materials instead of the ready-mixed fertilizer is that they can be used separately as needed, or to mix with manure, or with any other material which may be lacking in one or more particular element. (Manure, for instance, is usually lacking in the percentage of phosphoric acid and of potash, in proportion to the nitrogen contained.) Nitrate of soda, the nitrate in which is immediately available, is especially valuable as a top dressing for quick-growing crops, such as salads and most of the leaf crops, and a very light application put around the cabbages and and similar crops and worked into the soil frequently produces incredible results. Potash is equally valuable for plants which are not maturing properly; especially for grapes, small fruits and such vegetables as require a high percentage of potash.

Lime, which is called a soil "amendment," is not a direct fertilizer, but is of direct benefit to the soil through its physical and chemical effects; it helps to sweeten sour soils and to make available the food already in the soil in unavailable forms. A good dressing of lime, one to two tons per acre, should be applied once every four or five years, to land which is at all inclined to become sour. The most convenient form to use is raw ground limestone, but any good agricultural lime from a reliable source may be used.

Compost. On every place, and especially on places where no stock of any sort is kept, a compost heap should be started every spring as soon as the garden has been planted, and all kinds of refuse which will rot away should be added to it during the summer and fall. Vegetable by-products of all sorts, such as sods, clumps of earth and roots, weeds (that have not gone to seed), roots and tops of plants, leaves, grass clippings and also street sweepings, dishwater, etc., are available material. Make a frame or a pit for the pile somewhere, preferably out of sight, and under cover. Hasten decomposition by forking the heap with the hose so that it will never be dried out. If it seems desirable to give it more "body," mix common garden soil through the heap.

TESTING THE SOIL—You can send samples of your soil to your State Experiment Station and have it analyzed. A better way for practical results is to take five to ten pots full of soil, add a little each of nitrate of soda, acid phosphate and muriate or sulphate of potash, and combinations of two and of all three of these, to the several pots, keeping one of plain soil as a "check," and labeling them all carefully. Plant them all with a few grains of corn or oats, and note which treatment indicates the largest increase of crop.



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To determine if your soil needs *lime,* get a few pieces of litmus paper from the drug store. Select a part of the garden where the soil is fresh and moist, make a cut in it with a knife blade and insert the larger part of the strip of paper, pressing the soil up against it. If the paper turns red or reddish pink, it will indicate that lime is needed—more in the former case than in the latter. A free growth of sorrel is another indication of sour soil.

Handling the Soil

IN the flower garden and the home vegetable garden, no less than on the farm, the way the soil is handled has a great deal to do with what you get out of it.

Besides keeping it rich by adding manure and fertilizer, and sweet by the use of lime, it must be kept in a good mechanical condition by thorough plowing or spading and working over, and also by the addition of humus or decayed vegetable matter from time to time.

PLOWING AND SPADING—It is always much cheaper and better to get a piece plowed, where there is enough room for a team to turn, than to attempt to do it or to have it done by hand. Have it done by somebody who knows his job. The soil should be turned so that it lies smoothly, with no sod, trash, stubble or manure or any material of that kind left on the surface to be in the way for all your other operations throughout the summer.

Have your plowing done deep; usually the soil should be turned clear down to the sub-soil, which should give a depth of furrow of from four to eight inches. Sometimes with a hard sub-soil, a sub-soil plow is used, but its place has been taken lately by the use of agricultural dynamite, used to break up hard and impervious sub-soils. This is not very expensive, and as the soil is benefited for years to come, it frequently pays to do it; if you think your garden suffers from a "hard-pan" sub-soil, consult a local expert in this line.

In many small gardens it is necessary to use a fork or spade instead of a plow. The job should be done no less thoroughly. In loose, loamy soils the spading fork with flat tines will be more satisfactory; in stiff soils, the spade.

TRENCHING is practically sub-soiling with the spade or fork. As each spadeful is turned over, the sub-soil exposed beneath it is spaded up and thrown back into the same place in such a manner as to loosen and to break it up; then the next spadeful of surface soil is thrown over it and the operation repeated.

FALL PREPARATION—Soil for crops to be planted early in the spring, and especially for heavy soils, are frequently plowed or spaded late in the fall. In this case, the surface should be left worked up roughly or thrown in long ridges to leave it the more exposed to the action of the elements.

HARROWING—After the soil is plowed or spaded, as the case may be, it is necessary to break up and pulverize the lumps as



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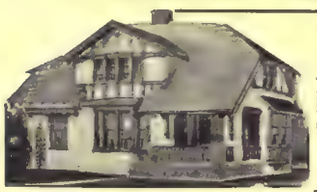
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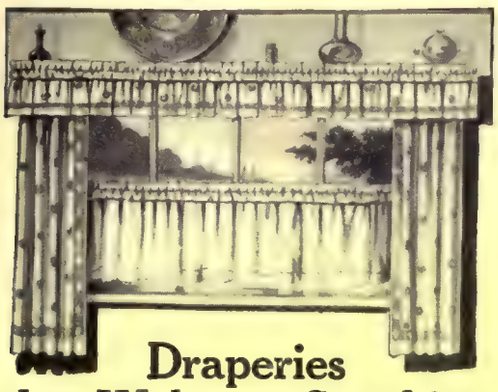
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TREES & PLANTS

finely as possible. Cultivation helps the soil fertility as well before the crops are planted as after. (There are several types of harrow to suit various conditions of soil, but the important thing is, that whichever type is used, it should be used enough.) The earth should be cut up and fined, not only upon the surface, but several inches below it. Where the harrow cannot be used, the hoe and the broad-tined fork will have to take its place. Thoroughly pulverized soil is a vital factor toward the successful garden or a fine flower bed.

DRAINAGE—Soil that is slow or wet, and consequently "late" in the spring, should be thoroughly underdrained. By all means drain if your soil requires it. Draining a half-acre garden will cost from twenty-five to fifty dollars. The most satisfactory method is to use two and one-half-inch round drain tile with collars. The deeper you place them, the more effective they will be; at three feet deep, the lines should be from twenty to thirty feet apart, according to the soil and the slope; if you can put them four feet deep, thirty to fifty feet apart will do. You can do the work yourself or with a digger to help you, but you must take great care that the fall of the pipes is continuous from the highest point of land to the lowest, where the outlet should, of course, be. It is well to put a small flat stone under each joint, to prevent the possibility of sagging, and a piece of inverted sod over it to keep any fine dirt from getting inside of it until after the ground has a chance to settle permanently. A "level" is, of course, used in laying the tiles to see that the proper fall is maintained throughout.

Sowing and Planting

THE first step in making the garden, after the ground is prepared, whether it be a geranium bed, a strip of the home vegetable garden or a ten-acre potato field, is to get a smooth, even surface. The purpose in doing this, aside from neatness and convenience in planting, is to conserve the soil moisture, so that the surface soil will dry rapidly on top and will form a dust mulch, which prevents the moisture from the soil below from escaping into the air, as it does rapidly when a hard crust forms. The smoother and finer the surface is made, the more perfect the dust mulch is.

The implement to do this job with is a steel-toothed rake. Go over the soil carefully, removing all stones or sods that might be in the way later, and use the rake with a backward and forward leveling-off motion so that just as little trash as possible will be dug up. It is best usually to rake at right angles to the way you expect to plant, as the marks left by the rake teeth will then not be confused with your planting marks.

DRILLS, ROWS, HILLS—In drills, the plants are grown in a continuous row, usually quite close together as onions, beets



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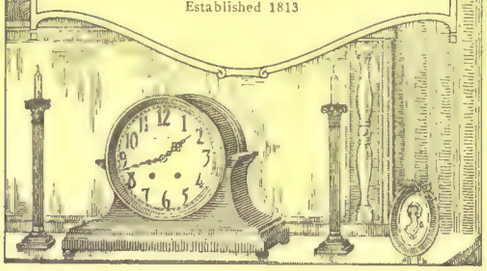
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or carrots. In rows, they are grown at regular intervals, usually considerably less than that distance between the rows, and they are cultivated only one way—such as cabbage or potatoes. In hills, the plants are usually far enough apart to be cultivated both ways, so usually the distance is the same in each direction—such as cucumbers or squash.

SOWING THE SEED—The first step is to have a smooth and freshly prepared surface. For good results, it is necessary that moist soil should be brought in direct contact with the seed. Most seed sowing is now done with a seed drill. If any sowing must be done by hand, or with flower seeds sown in the garden, they should be scattered thinly along the bottom of a freshly prepared drill, pressed down into the soil, if it is at all dry, with the edge of a board or the sole of the shoe, and covered immediately with moist earth, being slightly pressed down again with the surface, to indicate where the row is.

DEPTH TO COVER—Most flower seeds are very small and should be covered barely from sight; the general rule, as nearly as can be given, is to cover seeds indoors under glass to two or three times the depth of their diameter; outdoors, to four or five times.

The proper depth to which the cover seeds will depend also upon the season of planting, the character of the soil and the weather conditions. Hardy vegetables, such as early peas and beets, which must be planted when the ground is still wet and cold, should be put comparatively near the surface, where the soil is warmer and there is plenty of moisture for germination. Late plantings of the same things, say in June, should be put deeper than the average depth. In planting in dry soil it is especially desirable that the seed be firmed in the soil *before* covering.

PLANTING—When plants are to be set out, the ground should be just as carefully prepared as for sowing seed. Mark the rows and crossrows out carefully and have everything in readiness, so that the work, when once begun, may be carried through as quickly as possible. A cloudy or rainy day or late afternoon is the best time to set plants. If the work has to be done in the morning or on a bright day, the plants should be protected, if they are likely to wilt, with pieces of newspaper placed over them and held down by stones or earth or by a screening of some sort, such as a wide board placed on edge along the row.

"HARDENING OFF"—Plants removed from the cold-frame or hothouse to the garden should be hardened off before being set out, especially any which may have had a rapid, soft growth. Tall, spindling plants are also always to be avoided. Short, stocky specimens, even though much smaller in size, will take hold more quickly and soon make up their deficiency in size.

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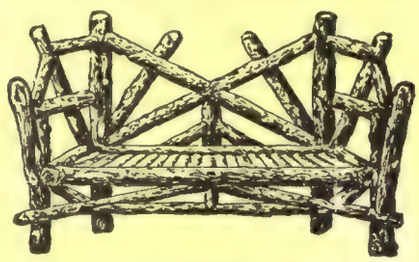
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trimmed back. The roots, too, if long and scraggly, should be cut back to a compact mass, which can be handled and inserted into the soil easily. Long, broken roots, which must be twisted and bent in the process of transplanting, are of no use to the plant. But, in taking plants from the flats, be careful not to break off any off the roots. Cut them out with a knife or lift them out carefully, saving a smuch earth about them as possible.

In setting the plants in the soil, dig a hole with the hand or with a dibble and in placing the ball of earth and roots in it, be careful that the ends of the roots are not turned up toward the surface of the soil or crowded in a bunch into a small space. The plants should be set deep enough so that the earth will come about half way us the stem, or stalk, and the earth pressed down about it very firmly with the fingers and knuckles. It is very important to set the plants *firm* in the soil. Potted plants like geraniums, nursery plants like rose bushes or small fruits, or even plants being set in the garden like cabbage or lettuce, may be gone over with advantage after planting and made still more firm by pressing the soil down about them with the balls of the feet; this is especially desirable, if the soil is at all dry.

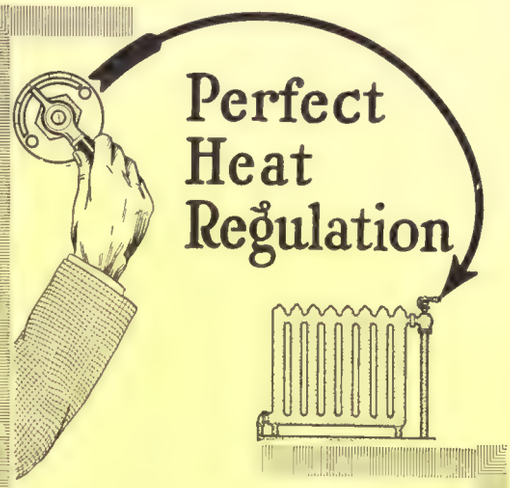
In very dry weather, it is sometimes necessary to use water when setting the plants, and when this is done, half a pint to a pint as conditions may require, should be put in the bottom of the hole before setting the plant in. It will be of little or no use to pour the water around on the surface after setting the plant.

Special fertilization is often given when setting out plants, either in beds with single specimens or in rows in the garden. Tankage or bone meal or a mixture of both are good for this purpose, or well rotted manure or hen manure may be used. In any case this extra fertilizer should be well mixed with the soil before the plants are set out.

Tools and Cultivation

THERE are a few tools essential to the proper care of any garden. Those so fortunate as to have large gardens may, of course, find use for many others which we need not mention here.

THE HAND TOOLS—These few things, however, you should include in your outfit—a spade, a spading fork, a flat-tined hook, a bow rake, an iron-toother rake, a square-pointed shovel, a plow, a trowel, a dibble, a garden line, a combination seed drill and wheel hoe, and a scuffle hoe. The uses for the first few of these have been mentioned in the instructions for preparing the soil. The seed drill, while it saves a tremendous amount of labor, must, nevertheless, be used with care. First of all, it must be kept scrupulously clean and dry and never put away in a wet or dirty condition, or rust will soon prevent its operating accurately. As the size of seeds vary a great deal, before being put in use for any particular crop it should be care-



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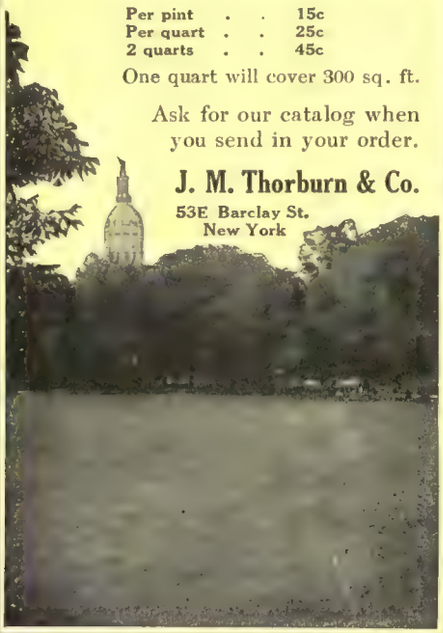
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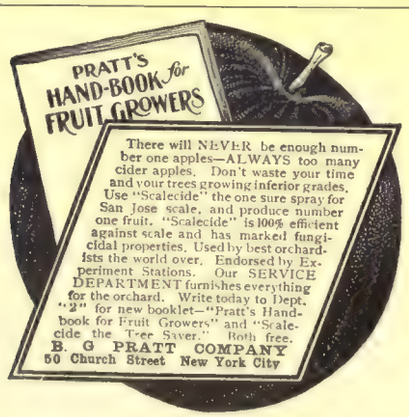
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fully adjusted. The best way to do this is to get along, clean board or sweep a place clean on the shed floor, where you can sow a few feet of seed and see whether it is dropping properly. A great deal of trouble will be saved by so planning your garden, that seed of approximately the same size and requireing planting of the same depth are sown together, so that in planting the garden it will be necessary to adjust the machine as few times as possible. In planting large seeds, such as peas and beans, which have to go quite deep, the rows may be furrowed out first lightly with a hoe or the plow attachment to the wheel-hoe, and the seeds then sown with the drill in the bottom of this. The trench can be fielled in immediately, or after the plants are several inches high, at the time of the first hoeing.

For the first cultivation, after the plants have come up, the disc attachment, which shaves close to the row without throwing any dirt toward it, or the hoes with the shank turned toward the row, as illustrated, should be used, with the machine running astraddle of the row. When the plants get larger, the hoes may be turned the other way, so that they overlap, and the machine runs between the rows. The rake attachments are also very valuable in breaking up the crusts where there are no small weeds; in this way the work can be done with great rapidity, and it is much easier to do this, keeping the weeds down when they are just beginning to sprout, than to wait until they are an inch or two high and then have to go over the garden carefully, doing a good deal of the work by hand. Keep the wheelhoe and its attachments as carefully as you would a sewing machine; keep it well oiled and the cutting edges sharp, and do not be afraid to take the time and trouble to get the right attachment and the proper adjustment to do the best work for the particular job you may have in hand. For after you have once succeeded, you will know just what to do the next time without wasting any time.

CULTIVATION—The chief purpose of cultivation is to conserve the moisture in the soil by maintaining a dust mulch. In addition to this, it breaks up and pulverizes the soil below the surface, admitting air, and destroys weeds.

Cultivation should begin just as soon as the planting has been done. The rows will, or should be, plainly marked by the roller on the seed drill or where the soil has been pressed down by the back of the hoe after covering the seed. Some seeds come up in a few days, but others take a much longer period. Do not wait for the plant to appear, keep the surface soil stirred continuously, every week or ten days, between the rows and as near as possible to the rows of little seedlings coming up. The first few cultivations can be quite deep, but as soon as the plant roots begin to spread through the soil it should be kept nearer the surface, so that they will not be cut off or injured. The roots of quick-



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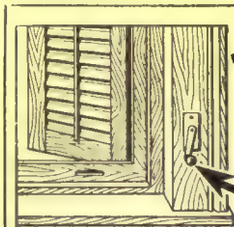
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growing plants spread very rapidly; corn, for instance, in the course of only ten or fifteen days, will, in favorable weather, have sent out roots long enough to touch each other when the hills are planted three and a half or four feet apart.

Hand Weeding—In soils which are fairly free from weeds, and even where cultivation is kept up constantly, some hand weeding will be necessary to keep the plants clean in the rows. Get this done at once. If you attend to it as soon as the weeds can be seen, they can be taken out very rapidly with a small hand weeder. Also take the following hints: Do this work while the ground is soft, as soon after a rain as possible; do not merely pull out the weeds, but break up every square inch of soil suaface, thus killing at the start the weeds that have already sprouted but are not yet above ground. Just before hand weeding, run over the rows with the wheelhoe and bring it up as close as possible to the plants, so that no more work than is necessary will have to be done by the fingers.

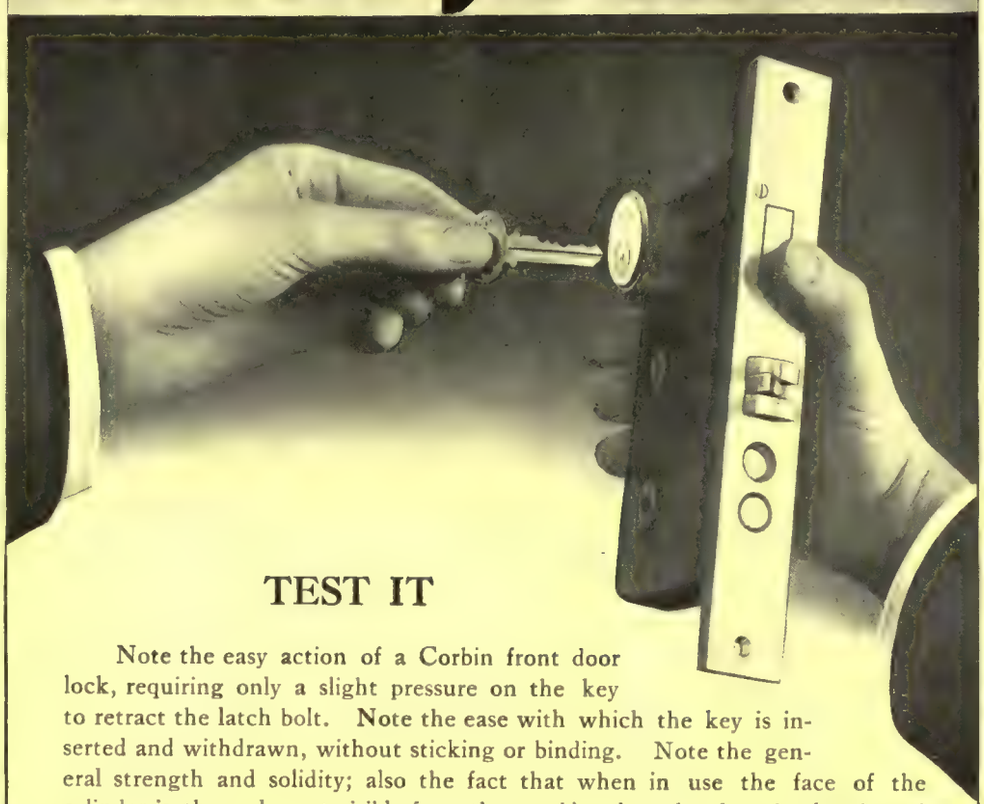
Level Culture—It used to be the common practice to hill up most row crops and was due largely to the fact that instruments suited to level cultivation had not yet been introduced. This has now to a very large extent been done away with, and for most crops cultivation is kept as level as possible, although especially during the latter part of the season of growth, it is desirable in some instances to work the soil up toward the plant, such as corn and potatoes, making a very low, flat hill at the second or third hoeing, and in this way many small weeds are smothered out and an extra mulch is placed around the roots. In wet soils or very wet seasons, hilling is of benefit where it would not otherwise be to advantage.

Irrigation

IRRIGATION is of vital importance to the complete success of the garden. Without sufficient water to enable the plant roots to take up the plant food in the soil, dissolving it for them, the crops will fail no matter how rich the soil may have been made nor how good the seed used. Nothing that you can possibly do for the garden will provide such certain and good results as the installation of some sort of a system for watering or irrigating.

If you have a city water supply, the problem is a very simple one. A three-quarter-inch or an inch pipe laid through the garden will not be expensive. If you want to you can use "second-hand" pipe, and if you desire you can do most of the work yourself with the use of a couple of pipe wrenches. If the garden is a small one, one hose connection will be enough. If you prefer, however, for convenience, you may have two or more at intervals of fifty feet, which will allow you to cover the whole garden with a twenty-five-foot hose, along one side or through the center of it. As the pipe, which will not be wanted during the winter, can be discon-

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nected and drained out in the fall, it is not necessary to put it far below the surface of the garden, and, in fact, it can be laid along the top of the ground, but it will then be in the way of the lawn mower and so forth.

OVERHEAD SPRINKLING SYSTEM OF IRRIGATION—Watering by hose, while effective, is still not as thorough and nowhere near as easy as watering with a regular irrigating system. The best system for ordinary purposes is that known as the Skinner or "over-head" system. The pipes are placed fifty feet apart, and the nozzles which distribute the water four feet apart on the pipe. The latter cost only five cents apiece. For a large garden a combination strainer and turning handle, which costs a dollar and seventy-five cents or more, according to size, is convenient; but it is not necessary for small gardens with a supply of city water. Where water is supplied from a gravity tank the fall must be sufficient to product fifteen pounds or more of pressure at the nozzles. (See accompanying tables for pressures at varying heights.) The brass spray nozzles throw a stream, under thirty to fifty pounds pressure, to a distance of twenty-five feet. The nozzle-line pipes are placed upon supports from a foot to six feet or more about the ground, and may be desirable; upon these supports they may be revolved from side to side, each pipe thus covering a strip fifty feet wide.

It is best to irrigate on a cloudy day or in the afternoon, but with the overhead sprinkling system I have never been able to see any bad results even when water was applied in bright sunshine. Water should not be applied until the soil begins to get dry, and then it should be given a thorough soaking, such as would result from a good, thorough rain. It is well to cultivate as soon as possible after irrigating, in order that the water applied will last as long as possible. Irrigation is also a protection against frost, either for sprinkling hardy plants early in the morning after they have been touched, or for protecting more tender things by keeping the water spray turned on continually during the night until after danger of frost is over in the morning.

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THERE are a great many opportunities about the average place for advantageously using concrete. It can be adapted for a variety of uses from filling holes in trees and making foundations, to making garden vases, a stone step, a root cellar, or a coldframe. The ingredients are cheap, and what you make out of it is practically indestructible. You can easily learn to do the work yourself in odd half hours.

The ingredients required (they will keep indefinitely, until you are ready to use them, if stored in a dry place), are Portland cement, which comes in paper bags of 95 pounds net—clean, coarse builders' sand and medium-sized gravel, crushed stone or clean, hard cinders.

All the tools required are a tight floor, platform or large box in which to mix, a square-pointed shovel and a hoe, with which to handle and mix the material; a peck or larger measure for measuring, and a couple of pails to carry water, or fresh cement in, if it has to be poured into forms.

In making the concrete, these materials are mixed together in varying proportions, according to the requirements of the work to be done. The more cement used in proportion to the other things used, the stronger the concrete.

Medium Mixture—For Ordinary work, such as walls, walks, curbs, small foundations, etc., use 1 part Portland cement, 2½ sand and 5 gravel, by bulk.

For thin walls, posts, troughs, or any materials which must be strong and impervious, use 1 part cement, 2 sand and 4 gravel. For abutments, foundations, retaining walls and other use where bulk rather than great strength is the object, use 1 cement, 3 sand and 6 gravel.

In making walks care must be taken to have the foundations firm, well drained and even before the top is laid down. Except in good stiff soil a foundation layer of broken stone or very coarse gravel is desirable, if not actually necessary. For a hard, smooth surface, or to finish off gutters or curbs, mix thirty shovelfuls sharp sand to a bag of cement (or about three shovelfuls to each ten pounds of cement), and apply before the base has hardened.

Carefully measure out the gravel, sand and cement and shovel them over once or twice to get the cement fairly well distributed before applying the water. Add the latter gradually, working over quickly, until the mass is of an even consistency and thin enough to pour, or spread, and put into place at once. If the wet concrete is allowed to make its initial "set" it should not be used.

Forms—For constructing walls of buildings, and for many other purposes "forms" are used. They may be readily constructed from ordinary boards, free from rough splinters or knotholes. For heavy work plank are better, as they do not give so readily. In either case brace all forms thoroughly, so that they will not bulge under the pressure of the wet concrete, which should be tamped down firmly into place. It should set for a day or more, and then the forms should be carefully removed. If the concrete is to be subjected to use or strain at once, the forms should be left for a longer period. Protect fresh concrete from possible freezing.

In connection with the use of concrete, or even without it, the use of gas or water-pipe, either new or second-hand (which may be bought very cheaply) offers many possibilities in the way of repair or construction. You can order the pipe cut to any desired length, so that by the use of "split fittings," which are now made for a great variety of purposes, you can put up iron work that does not have to be water



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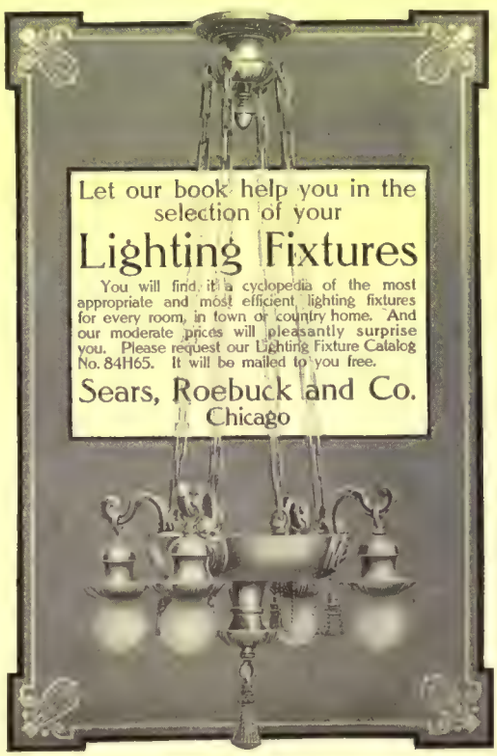
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Tree Repair

THE injuries to trees are usually abrasions on the bark or broken limbs or splints in the crotches of trunks or branches.

The implements needed for ordinary tree surgery are a good pocketknife, a mallet and chisel, a sharp saw and a can of coal tar or heavy linseed oil or lead paint. Cement for making concrete will be necessary in cases where large cavities exist.

In cases of wounds or broken limbs the first thing to do is to cut back to sound wood or sound bark. Make all the surfaces clean and dry; in cases of limb or branch, unless quite large, cut them off quite close to the trunk. The wound should then be wiped off, clean and dry, and painted over thoroughly.

Splits should be prevented or repaired by tying the parts up temporarily with a rope or chain, which may be twisted up with a stick or iron bar, to get them close together; then drill a hole through each branch, measure the distance, and have a bolt made at the blacksmith's jointed in the middle, and with a large washer at each end.

Decayed cavities, either at the base of the trunk or at large limbs resulting from wounds formerly neglected, should be dug out and all semi-rotted wood chiseled back to clean, hard wood; paint this over, and if the cavity is large, fill it with cement, being sure that no rotten or decayed spot is left underneath it.

Plant Fruit Trees

APPLES and peaches may be grown on any good garden soil. Good drainage is absolutely necessary. Holes for planting fruit trees may be prepared in the same way as those described for shrubs.

CULTIVATION—Because the fruit trees and small fruits, such as currants and grapes, will stand almost any amount of abuse, without being actually killed, they are frequently neglected. In order to obtain satisfactory results they must be properly cultivated. The cultivation can be very shallow and can be done very rapidly with a wheelhoe or rake, or with a harrow on a larger scale. Where more than a few bushes or trees are kept, it is a good plan to sow some cover crop in August or early in September, which will not only save cultivation but will also give the ground protection through the winter, and will furnish humus to spade or plow under in the spring.



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SPRAYING AND PRUNING—In the growing of fruits, both the small fruits and the tree fruits, to give protection from both diseases and insects, is perhaps the most important part of the work. This is done most effectually by the means of sprays, and you should make yourself familiar with the things which are likely to cause trouble and their remedies. As soon as you find anything which appears to be wrong you should immediately ascertain what is wrong and begin the fight against it without a day's delay. Proper pruning is also very important. Cutting back the plants at the time of setting has already been spoken of. The fruit trees, apple, plum, pear and so forth, are now trained to what is called the open head or vase form, which consists in cutting them back, cutting off the main leader quite low to the ground, when they are planted out a year later, and inducing a lateral or spreading open growth of the lateral branches as a result. If pruning is done properly from the beginning, very little will have to be done each season, except trimming enough to keep the young growing trees in shape with a pocket knife. For larger trees, all broken limbs or those which cross, or where growth has become too crowded through neglect, should be cut off, always being careful to make a clean cut with a sharp pruning knife or saw.

Grafting and Budding

IT is often of advantage to have more than one kind of fruit growing on a tree or to substitute for an unsatisfactory variety one that is better liked. This can be done by grafting if the stock plant is in good healthy condition. "Budding" is a similar operation, except that in place of the scion or twig used in grafting, a single "bud," with a small slice of bark and little or no wood attached, is used. Commercially either budding or grafting is used mostly to propagate varieties that either will not come true from seed or are weak growing sorts on their own roots.

Unless one has had experience it is much better to get some one who knows how to do the work; but as that is not always possible, and, furthermore, as there is a great deal of fun to be had in doing the thing for oneself, here are brief directions: The scion or cutting is made from a new, live branch, usually not larger than a lead pencil in diameter, having two or three buds on it. They should be taken in winter or in very early spring while growth is perfectly dormant, and may be stored in sand in the cellar, or any cold place, or buried in the ground until wanted. If allowed to shrivel they are useless. The graft should be made before the trees start in to active growth in the spring.

The stock should be clean and healthy; if changing over a grown tree, such as a plum, apple or pear, upon which some other variety is wanted, the 'cleft graft" is used. Cut off square the tops of healthy, young lims, which are preferably two



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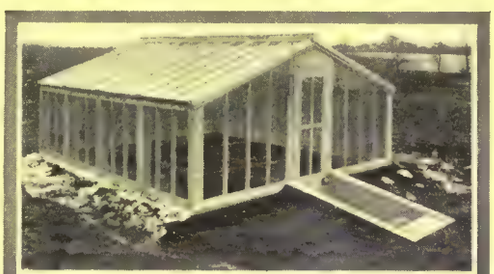
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inches or si in diameter; split this carefully across the middle and insert one (or two) of the scions, having cut them carefully to a wedge shape on one end. Success will depend upon getting the cambium or living under-bark layer of growth, in both scion and stock, held firmly together and protected from decay. Each scion must be held firmly in place and the whole wound covered over with grafting wax; in applying which, as it is sticky, the fingers should be greased with tallow. New suckers and sap growths must be kept off the stock plants, and it should be pruned back quite severely each year to throw the strength of the tree into the new growth.

Very small stock, such as seedlings one to three years old, instead of being split, are cut off diagonally, and the whip graft employed. The surfaces of stock and scion must match evenly, and a tongue is cut down in each at the center so that one may be inserted in the other, thus holding them more firmly in place. They are then bound tight with raffia or cord and waxed over.

In budding, a single healthy bud with an elliptical section of bark is used instead of a scion, and this is inserted into a T-shaped slit made in the bark of the stock tree, where it is bound tight with raffia. Budding is usually done in August or early in the spring.

Grafting Wax can be bought from your seedsman or nrseryman, or made by breaking up and thoroughly melting together four parts of rosin by weight, two of beeswax and one of tallow. When thoroughly melted pour into a pan of cold water, and as soon as it hardens work, as you would molasses candy, until the proper consistency and a light color.

Weeds

TROUBLESOME weeds that persist in gravel or earth paths and very often those on lawns or about the grounds or in pasture hay and grain crops can be controlled by spraying with herbicides. For walks, drives, tennis courts, etc., use common salt, either sprinkled on freely dry, or with a watering can at the rate of one pound to one gallon of hot water. Crude carbolic acid, one part to ten to thirty parts water, may be used as a spray, provided the mixture is kept well stirred up.

Individual weeds which can be got at without injuring other plants near them may be treated with carbolic acid pure, or if this is not effective, although it usually will be, sulphuric acid—the latter, however, should be handled very carefully and only in glass containers.

Poison ivy and other wild vines should be cut off, preferably in mid-summer, close to the ground; the main trunk and stems grubbed up, and a strong solution of caustic soda poured into the holes wherever the remnants of the vines or roots are visible.

(*Continued on page* 342)



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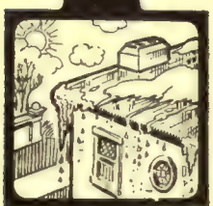
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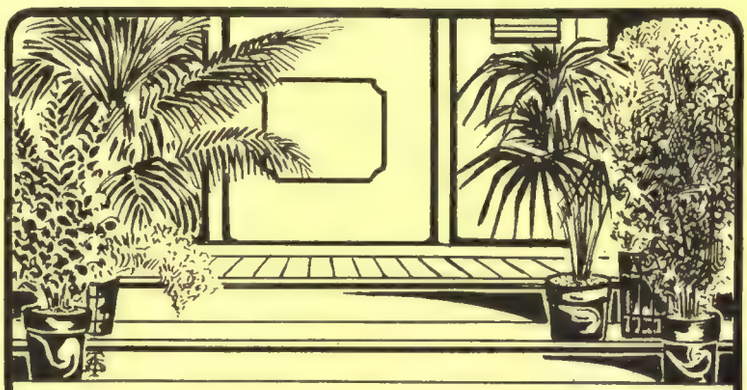


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(*Continued from page* 340)

Weeds in lawns, pastures and grain crops can also be controlled by spraying; among those susceptible to the sprays are mustard, dandelion, ox-eyed daisy, red-topped thistle, carrots, parsnip, elder, rag weed and most broad-leaved succulent-rooted weeds. In lawns, spray two or three days before cutting and do not mow again until two or three days after spraying. Rain will interfere with the effect of the spray and it may have to be repeated. Meadows should be sprayed just before the grass begins heading up. With grain crops the first spraying should be made before the bloom begins to show and again if new leaves begin to develop. Where only one spray can be applied it is best to give it just before the crop covers the land. The two most satisfactory solutions for spraying are as follows: Salt solution—common salt, 150 pounds; water, 50 gallons, covering half an acre to an acre. Iron sulphate solution—copperas (iron sulphate), 100 pounds; water, 52 gallons, will cover one-half to one acre.

Insects and Diseases

INSECTS attacking plants, in the garden, in the orchard or in the house, are of two types: those which live by chewing and those which suck the plant juices. It is very evident, therefore, that the punishment must be made to fit the criminal.

The three methods of combating insects are: first, to keep them away altogether, by *mechanical* protection; second, to poison them by poisoning the food they eat; third, to destroy them or drive them off by some contact poison or corrosive which will be effective without being taken into the mouth and stomach.

Insects will give you a great deal of trouble, or little, according as you prepare or neglect to prepare to get ready for them. Most of the common pests can be controlled if taken in time—the hour when you first notice them. To be able to do this you should have a supply of the most needed insecticides and fungicides on hand. This is now easy to do, for all the things in the following list can now be bought ready prepared in small packages that will keep. A single package will in most cases last for more than one season, so the expense of sufficient protection is very slight compared to the injury done for want of it.

Here is what your insect arsenal should contain:

A compressed air sprayer, a powder gun or bellows. One package of each of the following: Kerosene emulsion, tobacco dust, nicotine extract, arsenate of lead, paris green, hellebore, lime sulphur, bordeaux mixture.

Tobacco dust should be strong and made for the purpose; it is about three cents a pound in bulk. For dusting around on the ground about plants set out in the green house or coldframes and for dusting under the leaves of plants; it is especially effect-

(*Continued on page* 344)



BEING sisters, it does seem like rather the natural thing to locate the greenhouse near the garden. But how much more pleasurable if the indoor garden can be close to your home where you can reach it handily during disagreeable weather. If ever a greenhouse is cheering and comforting, it is when nature is in one of her topsy-turvey moods; or is gripping things in her icy clasp.

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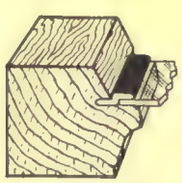
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(*Continued from page* 342)

ive as a preventative where the plants are likely to be infested by plant lice, or cucumber beetles, squash bugs, etc. Can be used in practically any quantity directly on the foliage without injury.

Nicotine Extract—This comes in various patented, commercial preparations which usually contain some oils besides the nicotine, making a more protective emulsion; if used thoroughly and in time they are very effective. One part of the preparation is usually diluted with twenty to forty parts water. Always follow directions on containers carefully.

Arsenate of Lead—Comes usually in a thick, creamy paste and can be diluted with water and sprayed. Or the powdered materials for making—only two—may be bought. Has the advantage over Paris green that it will not injure the foliage and will stay on much longer. Should be sprayed on several hours before a rain, to give it time to set, when it will not wash off.

Paris Green—A standard insecticide for many purposes. Can be used either in a spray or dry, but should be diluted in the former case with water and in the second with plaster of Paris. It sometimes is used pure on potatoes, but must be blown on with a machine made for the purpose, in such small amounts that it cannot be seen.

Bordeaux Mixture—The standard preventative for blights and fungous diseases. Dilute according to directions and spray thoroughly. Arsenate of lead or Paris green may be added and sprayed on at the same time. Where it is desirable not to discolor the foliage such as on ornamental plants, or ripening fruit, use ammoniacal copper carbonate solution instead of Bordeaux. (See Home-Made Sprays for directions for making it.)

Lime Sulphur Wash—Is used as a winter spray for San Jose and in a much weaker solution as a summer spray for rust. Arsenate of lead or Paris green may be used with it.

Hellebore—Is used for currant worms or in other places where it is not desirable to use Paris green. It is dusted on dry or sprayed.

Kerosene Emulsion—This is a very safe and effective insecticide for sucking insects, such as plant lice and aphids, mealy bugs, cabbage worms, young squash bugs, and so forth, and scale. (See Home-made Sprays.)

Kerosene Emulsion—Thoroughly dissolve ½ lb. strong soap in a quart or so of hot water. Add this to 1 gal. water and 2 gals. kerosene,—or in these proportions. (For small amounts use 2 cubic inches soap, 1 pt. water and 1 qt. kerosene.) Place in pail or tub and churn or pump until a thick, lathery cream results. This is the "stock" solution. In using, dilute with 5 to 15 parts water—on dormant

(*Continued on page* 346)



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(*Continued from page* 344)

growth, 5 to 7; for most purposes 10; and for light work 15.

Bordeaux Mixture—(5-5-50 formula). Dissolve copper sulphate (crystals) in water at the rate of 1 lb. to 1 gal. This should be done the day before, or at least several hours before, the Bordeaux is wanted for use. Suspend the sulphate crystals in a cloth or old bag just below the surface of the water. Then slake the same amount of lime in a tub or tight box, adding the water a little at a time, until the whole attains the consistency of thick milk. (When necessary, add water to this mixture if it is kept long; never let it dry out.) When ready to spray, pour the stock copper sulphate solution into the tank in the proportion of 1 gal. to every 10 of spray required. Add water to amount required. They add stock lime solution, first diluting about one-half with water and straining.

For small amount, use 1 tablespoonful copper sulphate; 1½ of lime and 1 gal. of water.

Poison Bran Mash—Used for cutworms; to 25 lbs. bran, middlings or coarse flour, add ½ lb. Paris green, and mix thoroughly; then add ½ to 1 pt. molasses, or brown sugar, and enough water to make a mash thick enough to spread. Scatter in small quantities where cutworms give trouble. For small amount, use 1 qt. bran, 1 tablespoonful of molasses, 1 teaspoonful of Paris green.

Cultural Directions

ASPARAGUS prefers a sandy, well-drained, early soil. Make trenches 3 or 4 feet apart and 16 to 20 inches deep. Tramp in 6 or 8 inches of well-rotted manure; cover with 6 or 8 inches of good garden soil, and on this set 1 or 2 year-old crowns, being careful to spread the roots out evenly. Fill in, leaving the roots some 6 inches below the surface. In the fall, clear off all tops and weeds and apply a good coating of manure. Apply nitrate of soda in spring and give light cultivations. A few stalks for use may be cut second spring. (Asparagus beetle and A. "rust.")

Beans—Well-drained, rather light soil. Plenty of potash—wood ashes good. Hill slightly. Never work when foliage is wet. Plant limas on edge, with eye down, when there is no prospect of immediate rain. Pole sorts on prepared hills.

Beets—For continuous supply of good quality plant seed and set out plants early in April; plant again about May 1st and June 1st. Make last large enough to allow for winter supply. May be planted as late as July 1st, if medium early variety and seed is well firmed in soil. (Scab.)

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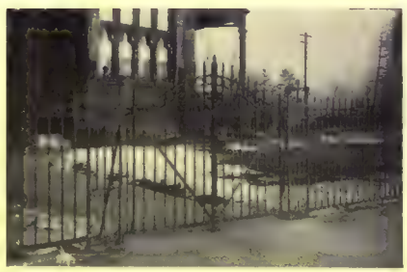
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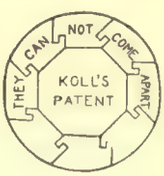
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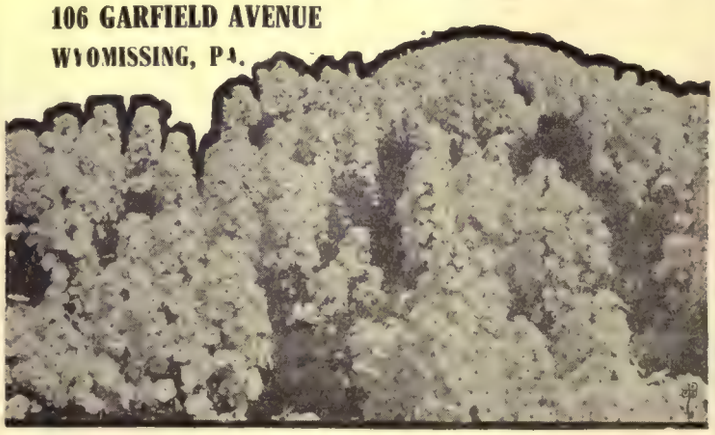
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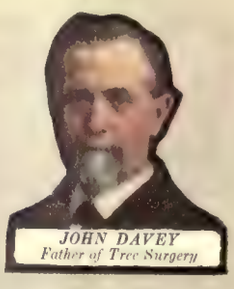
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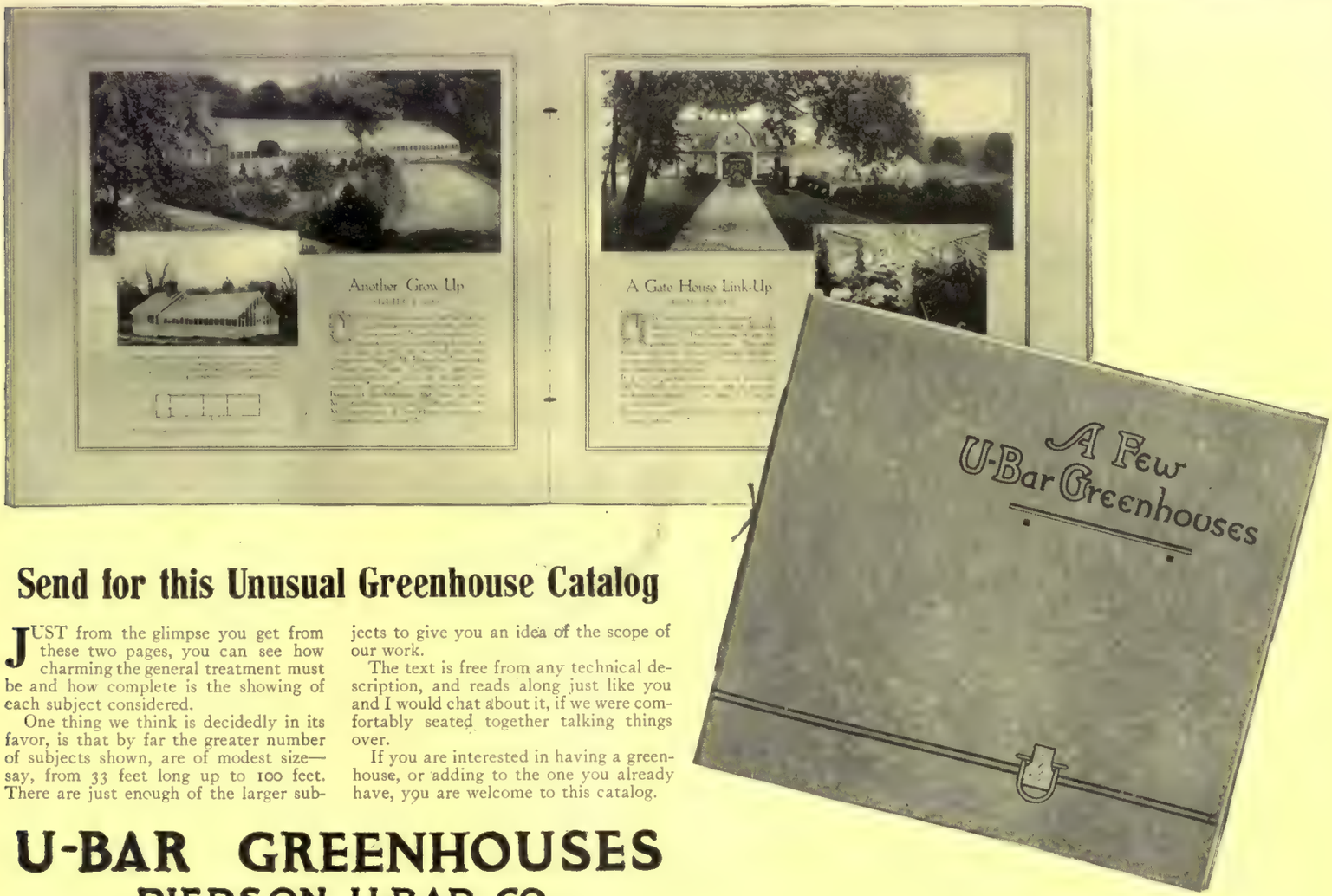
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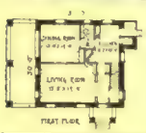
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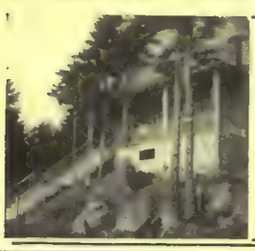
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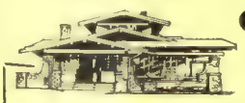
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SOUTHERN GARDEN DEPARTMENT

Conducted by JULIA LESTER DILLON

The writer of this department gladly answers inquiries from Southern readers in regard to their garden problems. Please enclose a self-addressed, stamped envelope if a prompt personal reply is desired.

Solving the May Problems

WITH Lent ushered in with a snowfall of eleven inches on February 25, icicles on the trees all over the Southland as late as March 23, although the air was as balmy as April between those dates, the spring of 1914 presents unusual problems to the garden-makers. Everything has had to wait and the spring planting of summer flowers which usually occurs in April, and often in March, has had to be delayed until it is now necessary to put in the autumn flowers also, and the rush is so great that it will be hard to find a sleeping time this month, if all that should be done is done.

Many of the baby perennials, phloxes, chrysanthemums, rudbeckias, gaillardias, and others, were killed off by the cold, and it has not been possible to separate the clumps until now that they have regained their strength and growth.

This being the third year, there are twenty clumps of hardy phlox that must be lifted soon in my garden. Averaging five new plants from each old one, I will have at least one hundred new phlox for the summer's bloom, without new expense. Most of them are white, and this pleases me, for in the midsummer days nothing is so refreshing as clusters of fragrant white blossoms that brighten the borders and lighten the corners of the shrubbery.

A dozen White Bonaffon Chrysanthemums, a like number of Alice Byron, six each of Major Bonaffon, and six of Yellow October Frost, with twelve Dr. Enguehardt, made my May contribution to last autumn's blooms. They were a gorgeous gift to the family and to the passers-by. They bloomed from October until late frost, which did not come until nearly December. Now each one of these plants is the center of a clump which must be separated to secure strong stocky plants for fall bloom this year. There are not less than four in the smallest of the clumps and as many as ten in others. From these two instances it will be readily seen how the Southern hardy borders stock themselves and can be secured with really small initial expense. Many of the perennials multiply as rapidly as do these two.

Do not mix the colors of the chrysanthemum plantings. Grouping the colors separately gives much finer effects. A long border of golden yellow against the

The Open Country Beckons!

SUMMER is upon us! The riot of sunshine and flowers has already begun, and already we are overhauling our bags and traps and country things, getting ready for that vacation trip—or better still a whole summer out in the open!

¶ The May HOUSE & GARDEN now in our hands, is filled with summer prophecy. Here is a story about Roses, another on the Color of Flowers, another on Quality Crops, and another on the Garden Theatre. These deal with the *externals* of country life—but in the matter of *actual living conditions* it remains for the next issue to get down to "brass tacks."

¶ The June SUMMER HOMES NUMBER is an institution with us, one of our four big numbers, and eagerly consulted by thousands of readers. To the people who are getting settled in their Summer homes, and finding out what they need to make those homes comfortable, the June HOUSE & GARDEN will be a timely guide. The direct value of the magazine is just here. It actually tells how. It doesn't simply describe things that have been done.

¶ A large majority of its readers will be guided by its suggestions in refitting their Summer homes, filling in with furniture, or remodeling for occupancy. And these people will look to the *advertising pages* to find more practical information in regard to where the things may be purchased.

¶ Do *you* happen to make or sell any of the things these people of means and desire will be likely to need?

Fred'k Leland

Manager of Advertising.







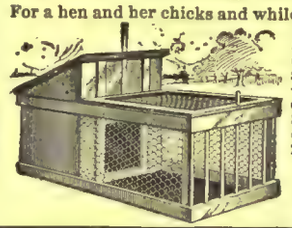
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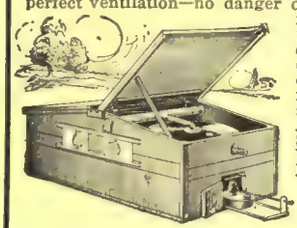
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gray green of the foliage, masses of white intermingled with the shrubbery, glowing crimsons, dainty pinks in beds and borders, deep rich maroons, and orange tones as deep as flames, make of the fall gardens pictures of unsurpassed loveliness.

A plantation of deep rose pink single chrysanthemums, on each side of the entrance steps of a gray stone State House, planted against a background of dark evergreen shrubbery, seems, as I recall it, as if a part of the sunset sky had fallen to the lawn, so vivid and beautiful was the effect. The hand of the Master Artist splashes the colors from his palette in broad masses and sweeps of rhythmic harmony of tone. We cannot follow a better example, and no flower gives better results for such plantings than the chrysanthemums.

If your garden scheme requires the planting of narrow borders, by using the dahlias with their brilliant color schemes in the background, and cutting and pinching the chrysanthemums to form masses of color on a lower level a border of rare beauty can be secured.

Another fall flower which is excellent for backgrounds is the Cosmos. It grows in poor soil, even where there is much sand, is hardy and late to bloom. I remember well how beautiful were the dooryards of a certain mill village last fall with masses of cosmos planted against the wire poultry netting that fenced in most of the yards. The ugly landscape was really glorified by the dainty foliage and bright blossoms of these plants. I had not thought them worthy of a place in my fall garden, but am including them hereafter.

Just as soon as the violets finish blooming they must be thinned out and planted anew. Do not fail to cut off the leaves when transplanting. They recuperate so much sooner and the garden looks so much neater while they are getting a new start than if the old leaves are left on to turn yellow and die.

Celery plants should be ready to put out now and cauliflower also. Both of these vegetables must have rather a shaded situation and thrive best where there is plenty of moisture, but there must also be good drainage.

Pepper plants, tomatoes and egg plants will have to be put into final positions this month. It will be necessary to protect them in the heat of the day for a few days after transplanting, but they will soon recover and rapidly come to maturity.

It will be necessary to make and keep an early start if the Sweet Peas are to be kept in bloom. They must be cut daily. Last year I had four full rows, which gave me cuttings of five hundred daily for many weeks. I hold my Garden Book responsible for the statement—my friends will bear it out. I planted them with the colors grouped separately and could easily cut a hundred each of white, pink, primrose, lavender and violet every day.

POULTRY DEPARTMENT

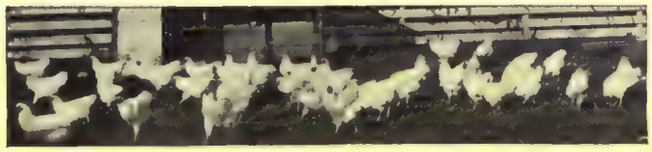
The Thoroughbred Fowl

AT the recent Madison Square Garden Poultry Show the jubilant exhibitor, whose splendid Single-comb White Leghorn Cockerel carried off the gold medal as the finest bird on exhibition, said that this medal gave him more satisfaction than the entire year's sales of eggs and breeding stock which it is known were well over $25,000. The purchaser of poultry will do well to familiarize himself with the various breeds, togther with their qualities. Only by careful purchasing at the start can future success be assured. There are, of course, certain important characteristics always to be looked for in purchasing stock, and by having a sharp eye for these one may soon learn to pick out birds of merit, well able to stamp their progeny with winning points.

First, then, look for the proper characteristics common to all breeds: fine carriage, short legs, bright eyes, brilliant-colored combs and wattles of fine texture, plumage abundant, bright and well-kept; beak short, stiff and strong; back of good length and reasonably broad; vitality indicated by a general air of alertness, freedom from vermin, and an unmistakable look of well-being. The general characteristics common to the "general-purpose" type (which include, American, Asiatic, Brahma, Dorking and Orpington Breeds) are: head small, with small combs and wattles; neck short, neat and tapering to the head; breast large, full, rounding and well developed; body very deep, broad and compact, well-fleshed, keel straight and long, should resemble a parallelogram in shape; flesh firm, evenly distributed and deep, especially in regions of desirable cuts, giving an indication of a tendency to fatten easily.

The "egg-type" differs from the general-purpose type in that the comb should be more developed, medium to large in size, full of blood and also of fine texture; the eye alert; body compact, very broad and deep, especially in the abdomen and fluff (giving plenty of room for the vital organs), well-fleshed but not fat; breast shallower than rear, presenting a wedge shape when seen from above; tail full and flowing with a tendency to be carried high; the male should be full of life and possessed of great courage, and the female should be very active, though docile and elusive. It is well, however, for the enthusiastic amateur to bear in mind that general characteristics don't always mean "prize winners," or he might find himself in the ignominious position of a well-known exhibitor, who amusingly recalls his first experience at a small local show (before he had much notion as to preparing birds for such occasions) when he had proudly







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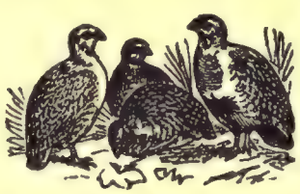
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tucked his best White Plymouth Rock pullet under his arm and made for the ring. His chagrin and discomfiture, when the judge took the treasured hen, and pulling out a black feather from under one wing, remarked "disqualified," were overwhelming, but he also insists it was the turning point in his existence, for he made a vow then and there to have the best or none. Many who are ambitious to breed prize birds refrain from doing so, as they fear the thoroughbreds require better quarters or different care from the ordinary flock; but this notion is quite erroneous, as all sorts and kinds of fowls require proper conditions to do well, namely, clean, wind and rain-proof houses (which are well-aired but free from draughts), plenty of exercise, ample yard room, and good, sound, wholesome food and pure water.

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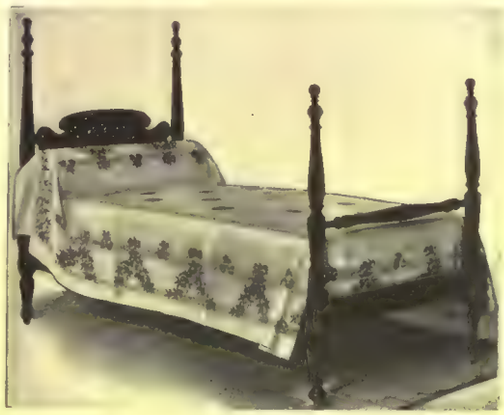
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VOLUME XXV NUMBER 5

WILLIAM A. VOLLMER,
Managing Editor

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Perhaps you still have the prejudice against the rambler roses that the old, unsatisfactory sorts have instilled in many. To-day, however, there is many such a place as this in your garden that may be made a feature by the use of some of the excellent ramblers which are recent improvements. Excelsa, Lady Gay, Hiawatha and American Pillar are good forms

House & Garden
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VOL. XXV—NO. 5 MAY, 1914

Our Friendly Frogs and Toads



THE FASCINATING LIFE HISTORY OF OUR OBSCURE GARDEN DWELLERS—

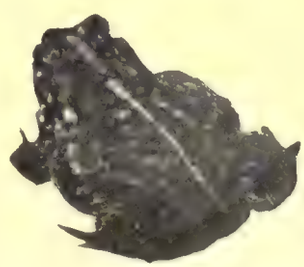
HOW TOADS AND FROGS FIGHT INSECT PESTS—SOME INTERESTING FACTS REGARDING THEIR HABITS

BY RAYMOND L. DITMARS

AS a rule we pay little attention to the frogs and toads. To many of us these are represented by two distinct kinds—"hop toads" and "bull frogs." Yet these animals form an important branch in Nature's big family, as there are over twelve hundred different kinds or species. And this aggregation ranges in size from mites that cling to blades of grass to monsters with gaping mouths that can engulf a full-grown rat. Their colors include every hue of the rainbow, and if an artist were to truthfully portray some of the tropical kinds in colors the results might be branded as more improbable than the visions of a nightmare.

We think only of plain hop toads, and of the water frogs whose legs are rated as a table delicacy, yet the arrival of the first sweet breaths of spring is an event sung to us busy mortals by the toads. We may not have justly thought of this before. But the elation would be lessened with the first scent of the warming ground, if the cheery, piping chorus from the marshes were lacking. Moreover, the song comes from tiny creatures that not one in a thousand of us has seen. They represent a legion of remarkably interesting creatures with strange life histories, and all of them of tremendous value to humanity.

Suppose we follow the seasons, and in that way get acquainted with our toads and frogs. After the winds of early March comes a day that is a real event. We feel electrified with the soft air and nature's sleeping family begins to stir. A warm, sweet night, and another of these wonderful days is ushered in. With it comes the chorus from the marshes. There is a ring of positive joy in those shrill, piping notes. We go to the edge of a pool from which protrude the dead stalks of last summer's reeds. The chorus lessens as we approach the water, until a solitary "peep" here and there gives way to silence. The observer must stand quite still for two or three minutes, and the solitary, piping notes begin once more, timidly at first, then grow in volume and number until the pool resounds with them. Yet no sign of life is to be seen; and strange it is, for one of the songsters is immediately in front of the observer—not two steps away. How many of us have been mystified by this spring call that carries a good part of a mile! Our thought is naturally that it comes from some big frog or toad-like creature that could easily be seen. Quite different is the truth. The creature of the penetrating call is the pygmy among toads. It could comfortably roost upon a dime. The reason you fail to see him comes from his wise habit of ducking to the side of the reed away from you, like a squirrel on a tree trunk. We say *he,* because only the males among frogs or toads do the singing; and while it may seem strange for a toad to be perching on a vertical stem, this eccentricity is explained by his structure, for he is a tree toad belonging to the genus *Hyla,* and popularly called Pickering's Tree Toad, in honor of a famous naturalist. His status may not be altogether clear, as the question naturally arises as to the right of a tree toad haunting the reeds of a pool. That is the breeding place, and toads and frogs breed only in the spring. Linked



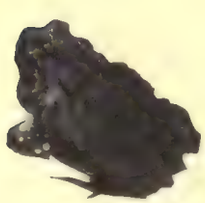


Clinging to the tree in what looks like an impossible situation for a toad you will find *Hyla Versicolor*, a gray toad. He is difficult to be distinguished from the bark, but his noise will lead you to him

between the reptiles and the fishes, they begin life under water and transform to creatures of the air. If there were space to explain it could be shown that this double method of existence shows the evolution from the hideous, almost jelly-like amphibians of millions of years ago to the comparatively rare, cold-blooded life of the present. A final word about Pickering's Tree Toad should be in praise of the big voice of this little toad. In proportion to his weight he is the star noise-producer among wild life in this country.

Early spring is fickle, and the opening chorus of the pygmy tree toad, the first messenger of warm weather, may be brought to an abrupt close by savage winds that send the "peepers" squirming back into the mud where they have passed the winter's sleep or hibernation. Again the weather breaks warm and mellow and the piping chorus comes with greater vigor. With it come other sounds from pools in the soggy woods; these waters get chilled by marginal sheet-ice and melting snow. The new sounds form a continuous low chattering and rasping, and denote the awakening of the wood frog and the leopard frog, but of the frogs we will speak later; we must first get acquainted with the toads.

Spring is well advanced and the treacherous "cold waves" are about gone, when a harsh and prolonged chatter, quite startling in its volume, resounds occasionally from the same pools where the "peepers" are yet singing. The winter sleep of the Gray Tree Toad has ended and its eggs are laid about the time the miniature "pollywogs" of Pickering's *Hyla* are commencing to hatch. This species is from one and a half to two inches long. Like all tree toads, its toes are expanded into adhesive pads, or suckers, enabling it to run up a smooth surface with the agility of a fly.



With mid-April the amphibian chorus is in full swing. The deep *"Klung"* of the green frog has joined in, and if we listen attentively a new and continuous accompaniment imparts a singularly weird tone. It appears to come from all sides, and one must be close to a favorable pool—stagnant and shallow water—to distinguish a break in the new sound, which is the plaintive, wailing trill of the common toad. This is the last of the amphibians to venture forth. Soon the ponds are teeming with gnome-like creatures that in make-up suggest a big, round head propelled by a long, flat tail. These are the tadpoles, or pollywogs, of the tree toads, the common and the spadefoot (subterraneous) toad and the various species of frogs that inhabit our respective neighborhoods.

The tadpoles feed upon aquatic plant life, and sooner or later, according to the species they represent, grow very tiny hind legs. Once these appear the legs rapidly increase in size until they vigorously kick out into swimming motions. Suddenly a front leg bursts through the skin of the side, under which it has been growing. This is followed by the other foreleg, and now the tadpole is in trouble. Its mouth is changing in form, and it cannot feed. But nature at once remedies this trouble. The long tail is absorbed into the body as nourishment. While the tadpole rests upon leaves of water plants close to the surface, the mouth



From the staring-eyed, spotted tadpole to the development of the beautiful leopard frog is a great transformation. The changes which take place are characteristic of all toads and frogs

grows wider and the tail becomes shorter, until it is a mere stump. For the first time in its life the fish-like animal yearns for a breath of air. It pokes the snout out of the water, and half chokes in the effort, but rapidly learns to really breathe. Then it hops out on the bank. Its tail has disappeared and it is hungry. A midge, with lace-like wings, is dancing on a pebble, and the little toad, or frog, not really knowing how, jumps at it. The snout misses the fly by a fraction of an inch, and the insect starts to rise—when a strange thing happens; across the space between the snout of the infant and its prey flashes a sticky tongue, which instantly transports the food back to the mouth. Thus are toads and frogs emancipated to a new life.

The life of the common garden toad is far more complex than we would imagine from a mere glance at the warty little creature as it hops on its way. Like all its immediate relatives, it lays the eggs under water in long, jelly-like strings. Here is an impor-

tant point because the eggs of frogs are in round masses. Toads' eggs are easily found, as they are usually laid in shallow pools. They quickly hatch, and the tadpoles must rush through the change to the pygmy toadlet, as the pool dries up within five or six weeks. In an aquarium the egg strings are seen to contain rows of black pellets. These uncoil and break forth as tadpoles. Within a few weeks the toad pollywogs have undergone a change that takes the frog tadpoles that many months. Nor do the pollywogs' bodies grow larger than the end pea in a pod. The border of the pool teems with little toads—many thousands of them.

They struggle to reach the summits of the pebbles to survey the world; others fight their way through the jungle of grass blades, while colonies cluster here and there, making the earth appear blotched with their myriads. Right here begins the balancing of nature's scales. Barely ten per cent. of these little toads attain the dignity of the warty garden variety. The slaughter at once commences. Some leopard frogs that have daringly chosen the temporary pool as a breeding ground and linger near its edge, are gorging themselves on their infant allies. Carnivorous beetles are already at work, and the ribbon and the garter snakes are frenziedly starting their first gorge. All these troubles are occurring within sight of the tadpoles' aquatic cradle.



This is the sort of a place the toad takes for his home. If you have not some damp holes beneath tree stumps, make him a miniature cave beneath a board. A pan of water would be appreciated, too

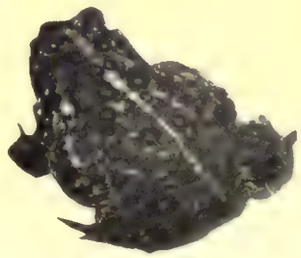


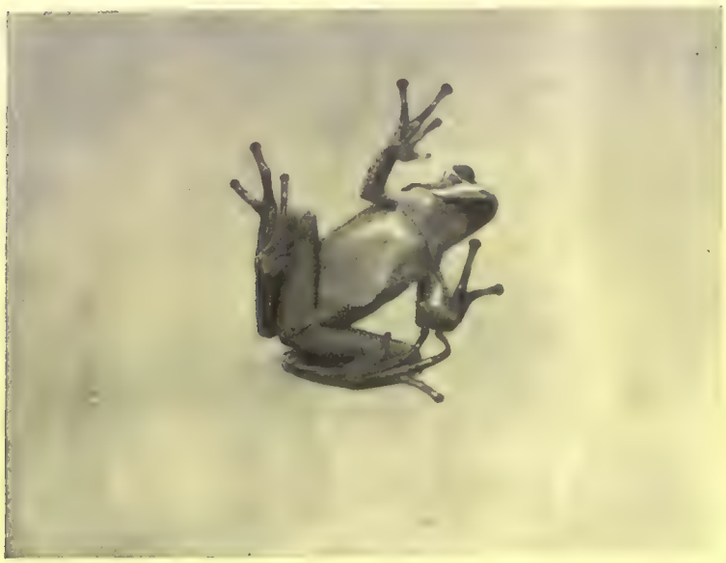
The comparative sizes of frog and toad tadpoles; the tadpoles in the upper row are frogs. The miniature size of the young toad makes him a prey for many enemies

The wanderings of the weak creatures produce further destruction. Many are dried into mere cinders by meandering into sun-baked hollows without trace of moisture; birds are on the alert for such tidbits; there are trap-like pitfalls with no escape, and final starvation, and at last a few aimless wanderers of the former great army of baby toads find crevices in the soil that are properly moist and where food is to be had. Here the wanderlust ceases and the toad is at home. Growth is not rapid. At the end of his first year the youngster is barely an inch long. A favorite toad home is under a boardwalk in a garden, where the toad hollows out a cell, and in it squats flat during the day. At dusk the hunt begins. In places like this toads return year after year, becoming tame enough to hop up and feed from one's fingers.

It is difficult to give proper credit to our friend, the toad. As an insect destroyer he holds first honors. For the greater part of the night the search for insect prey continues, and it ends only after a gorge, followed by rapid digestion and renewed appetite on the morrow. No better protection for the garden exists than a colony of toads. Unfortunately, through necessary improvement of drainage, the breeding places of toads are being rapidly removed, and toads are becoming rare over large areas, and in places have altogether disappeared. To continue this race of truly economic creatures it might be well to have shallow, concrete basins constructed as breeding places for them. When the young toads have completed their transformation from the tadpole stage these basins could be drained off, or otherwise, in mosquito time, they might breed millions of the undesired.

As an illustration of the appetites of toads, the writer remembers a rather tragic experience during his insect-collecting experiences. We were in a stony region searching for a rare species of beetle that lived under flat rocks. The value of this beetle to the professional collector was high. We turned over enough rocks to build a fort, and, while we found the broken wing cases of several long-dead examples, our efforts were otherwise unsuccessful. During our hunt we came across several dozen big toads, and a novel suggestion came from a member of our party. It was to gather a number of toads at night, mercifully kill them and search their stomachs for the coveted specimens. This we did. Unless the hunt had been for the purpose of filling gaps in the collection of a great educational institution, the writer would not shamelessly describe our rather murderous work, but it resulted in finding five specimens of the prize in the stomachs of our am-





The sucker-like pads on the fingers and toes of the tree toad permit him to cling even to the face of a piece of glass



A leopard frog, when full grown, is a very beautiful creature if you stop to examine him. The irregular spots give him his name

phibian assistants. We carefully classified the contents of one stomach, and the result follows: 127 ants, 11 small beetles, 9 grubs of various kinds, and an assortment of gnats, and the like, to comfortably round out this bristling assortment.

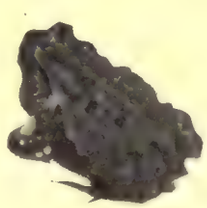
The story of the toad producing warts is a mere fallacy, but Shakespeare's much-ridiculed allusion to its poison is close to the truth. In the warty-looking protuberances of the toad's body, and particularly in the glandular swellings behind the eyes, is a milky fluid of decidedly poisonous nature, though not at all dangerous in the mere handling of a toad. However, it is well to explain that if this fluid should be exuded through rough handling and reaches the eyes, it causes intense irritation. Through accident, the writer has discovered that it is exceedingly bitter, and very little of it tends to paralyze the muscles of the tongue. With young toads the secretion does not appear to be powerful. Some of the frog-eating snakes can never be induced to eat a toad. Strangely enough, there are some snakes that prefer large toads to any other prey, being quite immune to the poison. The dog that unwisely seizes a toad does so for the last time. Its lesson is severe and long remembered. An immediate and high state of inflammation attacks the mouth parts, and the salivary secretions quickly flow and become frothy from the animal's agony. Many an unfortunate dog, thus receiving his introduction to the peaceful toad, has dashed along the country road with foaming jaws and staring eyes, causing wayfarers to flee in terror.



In the frog chorus the loudest, deepest note comes from the bull frog, and he is king in the frog family. He is a veritable monster, for he even preys upon animals. This is one just completing the violent struggle of swallowing a chick

And there are other toads besides the common garden species, though we seldom or never see them. One of these is the spade-toad, a really subterraneous species of common occurrence. From point of species, however, there are more frogs than toads, and in our nearby countryside there are usually five or six distinct kinds to be found. While frogs are largely insect eaters, they are not so valuable to man as toads, as they do not prowl and hunt over a large area, like the former.

In damp, cool forests we may come across a very beautiful little frog of golden bronze, with a large chestnut blotch behind each eye. This is the wood frog, which differs from his immediate relatives in seeking the water only during the breeding season. The tadpoles of this attractive frog are strangely beautiful in coloration. Above they are lustrous, pitch black, while beneath they appear like a shining globule packed with coarse grains of gold. The wood frog leads a useful life in destroy-



(*Continued on page* 422)

Choosing Flowers for Their Color

III—A GUIDE TO THE PINK FLOWERS, WITH DIRECTIONS FOR THEIR USE IN GARDEN EFFECTS WITH BLUE AND YELLOW

BY MARY YOUNGS

A COLOR more difficult of management in the garden than one would suppose is the apparently simple pink. There are so many pink flowers, and some so lovely, that at first glance it seems the easiest thing on earth to use them, but in their very variety lies the difficulty, for the various hues often fail to harmonize, and the catalogues give little help, all pinks, apparently, being "rose." It is true that the blue- or rose-pinks far exceed the yellow- or cream-pinks in number. The earliest of these blue-pinks is the pale *Scilla campanulata;* then come the hyacinths, both pale and deep, and the clear, bright rose of the English daisy (*Bellis perennis*). Next comes Thrift (*Armena maritima*), a bright Tyrian pink, which makes a gay but somewhat "Dutchy" edging for the border. Another early rose pink, luxuriant in bloom, but apt to be poor in color, is the Moss Pink (*Phlox subulata*). There is a variety (*Rosea*) of a good, soft tint, but one is never sure of getting it, and the commonest variety is too purple for beauty.

A charming flower of early May is the bleeding heart (*Dicentra spectabilis*). The foliage is graceful and of a pretty, pale green, and the drooping sprays of heart-shaped flowers, each with a "drop" of carmine hanging from the "heart," are a glistening, rose pink. *Dicentra formosa,* or *eximea,* is later, smaller and an ugly color.

Nearly all the early pink bedding tulips are rose in hue; some deep, some very pale, but practically all with the tinge of blue. The May-flowering tulips are also rose, or marked with rose; "Picotée, or Maiden's Blush," is an old favorite, "white-margined, deep rose"; "Inglescombe Pink" is described by a dealer as "soft, rosy pink, with a salmon flush," but it gives a bluer effect in mass than this would indicate. A fine Darwin of the deep, rose-pink called rosolane purple (a sort of paler "American Beauty" color) is "Nauticas," and it is one of the largest; also "Baronne de la Tonnaye" is a good rose pink. "Ethel Roosevelt," a "clear, soft rose, shaded darker," and "Mrs. Cleveland," a lovely, pale rose hardly deeper than a blush white. The colors of the Rose Bybloemen are hard and not good.

There are lovely rose-pink columbines, one a delicate pale rose, and one a color hard to describe, as it varies somewhat, but perhaps the old-fashioned name of "crushed raspberry" explains it as well as any. There is also at this time a pink perennial lupine (*L. polyphyllus roseus*), which begins life a pale rose pink, but it turns an ugly purple as it ages, so cut it off when its youth is past.



Among the early flowers the little English daisy is to be had in a clear, bright rose

The little daphne (*Cneorum,* usually listed as a shrub) is a rose pink of a creamy quality; it is not conspicuous, and is a little fussy to establish, but it blossoms twice, in May and September, and has a most exquisite perfume.

The pale rose, single *Pyrethrum hybridum* is a lovely color; the deeper ones are too deep for use in a pink border. The pretty Grass Pinks (*Dianthus plumarius*) are a good, soft rose, some with an amaranth eye and some without. The "Maiden Pinks" are a very good color, and so are the "Vermont Pinks," but the variety "Fettes Mount," listed as rose pink, are an ugly light mallow purple.

An unusual soft Tyrian pink is *Antranthus ruber,* occasionally listed as *Valeriana rubra.* This is the "Valerian" of English walls and cliffs, and is distinctly different from the true "Valerian" (*V. officinalis*), for which it is sometimes sold. True Tyrian pink is a little harsh, like Thrift, but the *Antranthus* is a lovely color, like deep, pink smoke.

Fraxinella (*Dictamnus*) is a flower of lovely form, but the hue a little too blue for easy combination; better use the white variety, which is charming. Under this color-head come also the old-fashioned *Pæonia officinalis rosea,* and the pink fox-gloves; these might follow the Tulip "Nauticas" in the border, being of much the same rosolane purple, or deep blue-pink. Most of the pink peonies are of the rose tones; "Mme. Forel," deep; "Livingston," pale, and "Mme. de Galhaw," very pale, are good ones.

Most of the sweet williams—pink, pink-and-white, and crimson-and-white—give the effect in mass of a clear, deep rose pink, but there are an eosine, or bright, cream pink, a deep Bordeaux red (called black-crimson), and a scarlet, or deep rose dorée, which do not enter this class. There are clear, pale, rose-pink *Campanulæ* of all three kinds—annual, biennial and perennial. The hardy and decorative *Lilium speciosum roseum* gives an effect in mass of a lovely, clear rose pink. *Physostegia Virginica* (Obedient Plant) is of the palest amaranth, almost over the line into lilac.

There is an interesting "red" rudbeckia (*var. purpurea*), almost impossible to class; it is a deep, blue-pink, but it is overlaid with a shrimp-pink, and the conspicuous cone is bronze, tipped with yellow—and whether to call the whole effect purple, rose or bronze, is a proposition! But it is most effective and worth experiment.

A most delightful rose-pink phlox is "Selma," and "Mme. Paul Dutrie" is a charming amaranthine pink, very pale. There are a number of rose-hued dahlias; the prolific, little, old-fashioned

"tight-wad" Pompon "A. D. Livoni" is an attractive one of amaranthine pink; "Delice" is a decorative of loveliest clear amaranthine pink, paler than "Livoni"; "Mrs. Roosevelt" is a show, with large flowers of palest amaranth; and "Pink Pearl," a good cactus, clear, pale amaranth and white.

The pink gladioli are lovely. "America" is the best, a lovely, pale amaranth; size, form and color are all superlative.

Among the later rose pinks are the two Ledumo (*S. spectabilis*), the improved Japanese live-forever and the adorable little lover's wreath (*S. Lieboldii*), which is a trailing plant with small, round blue-green leaves bordered with rose and rose-pink flowers. Rather coarse for a small garden, but of quaint and attractive color, is *Eupatorium purpureum,* or plain Joe-Pye weed. It is a *faded* color, known as eupatorium purple. There are a number of rose-hued chrysanthemums; one a very common, deep amaranth variety, nameless, and generally to be had for the asking—as, indeed, are the two dear little pink "Artemisias" of our grandmothers; one about the size of a ten-cent piece, and one larger, perhaps the size of a quarter. Of the newer early flowering varieties, "L'Aube" is good, and "Mignon," also good, but much paler.



If carefully selected, a fine early pink is the variety Moss Pink of *Phlox subulata*

Of rose-pink annuals, the lupines are good; the larkspur, variously called "Newport Pink," "Newport Scarlet" and "Lustrous Carmine," is both charming and useful; the individual flowers are apt to be streaked with purple, but the effect in mass is too valuable a color note to be lost on that account. The pink cornflowers are lovely in color of both flower and foliage; palest rose and silvery green. The annual mallows, like the perennial ones, are good, clear, bright rose. There is a fairly good rose-pink *Phlox Drummondi,* and there are exceedingly good verbenas, from the very palest tint to the fine, bright "Beauty of Oxford," which last does not come true from seed, and must be bought or slipped. There are numerous rose-hued petunias, mostly ugly, though a few may be good. The China aster, usually listed as "carmine," is a very ugly Tyrian rose, but there is also a lovely pale rose in several shapes. There is a really pretty zinnia of a Tyrian pink (which is much paler and softer than Tyrian rose), but pink zinnias are always risky—they are apt to be a wicked magenta. Last, and among the loveliest, is the rose-pink (not the so-called "crimson"!) cosmos. There are many other rose-hued flowers, but those mentioned are best for utility and beauty.



A pink garden is most effective if limited to this single shade or combined with whites and creams. Phlox and peonies strike the most important notes in this garden and tie the various beds together into one consistent scheme

The yellow, or creamy, pinks, though less numerous, are more beautiful. There are about six tones of these; hermosa is a lovely, pale tint; cosine is deeper and brighter, and begonia rose a beautiful, deeper tone; these three are tints of pure spectrum red. The three that are a little more yellow in hue are pale La France, deeper geranium and deepest and brilliant *Rose dorée.* There are several yellow-pink tulips. The May-flowering "John Ruskin" is "salmon rose, edged lemon yellow" (dealer's description), but in mass gives a bright, creamy-pink effect. Of the Darwins, "Clara Butt," which is quite bright in mass; "Flamingo," a delicate and lovely tint; "Reine Wilhelmine," very pale; and "Yolande," bright and a fine flower, are all cream-pink of varying tones and hues. "Pride of Haarlem" is a beauty, very bright and rather difficult to place in the color scale—or in the garden, for that matter—but well worth planting alone.

There are good, cream-pink peonies; Kelway's beautiful single "Pink Pearl" is a treasure of a hermosa pink; "Mme. Ducel" and "Souvenir de Charles Gombault" are good double ones. There is a charming geranium-pink Oriental poppy, "Salmon Queen," and some of the unnamed hybrids are also of good, creamy tones. "Newport Pink" sweet william is the eosine tint mentioned before, and a fine, bright color. Remember that sweet williams revert if allowed to grow near the common kind or mixtures. Some hollyhocks are a good, deep hermosa pink.

The cream-pink phloxes are lovely; "Lockii" is a good La France pink; "Evénement" is charming, a little deeper than hermosa pink; a little deeper still, and perhaps the best of all, is "Elizabeth Campbell." Of what may be called the flame-pink, "R. P. Struthers," "Coquelicot" and "Etna" are all good, between the tones called begonia rose and *Rose dorée.* Of the same flame hue are the fine gladioli "Independence," "Taconic" and "Mme. Monneret"; also "Mrs. Francis King." There are few creamy-pink dahlias, but many of differing hues of yellow, with rosy flushes

(*Continued on page* 424)

Up the Hill to Our House

A PERSONAL NARRATIVE OF THE MAKING OF A HOME IN THE COUNTRY

(The first chapter of this history appeared in the March issue and told of the selection of a site and the building of the house. Last month the planning and planting of the grounds was described. This, the concluding chapter, is concerned with the furnishing and management of the house.)

BY MARTHA MCLEOD



AFTER we were established in our new home I heard on all sides discussions of the farming problems, and I soon caught the contagion. My eagerness to solve several of these problems would not be satisfied until my theories were proved correct. There are two methods of conducting the farm to secure the greatest returns, in meeting as far as possible the family needs at a minimum cost. If there is but one man employed to do all the work of the place, for instance, the quantity of live stock and size of vegetable garden must be necessarily restricted. Managing in this way, it is improbable that all the demands could be supplied in the line of milk, eggs and vegetables. One would only find it necessary, however, to buy a small quantity with which to fill in. Supposing, on the other hand, one wishes to have all the table needs provided for on the place; then the live stock and garden must be added to, thereby necessitating the employment of an extra man. Accordingly, the supply would exceed the demand, and, to avoid running behind with expenses, the overflow must be sold. In the first instance, one may be at least assured of not having unnecessary burden and expense, and therefore we adopted the former method.

The first creature which ever stirred my heart in friendship was a new-born calf on my father's farm. When a tiny girl I returned from a stay of two years in Germany, and on our way home paid a visit to some friends. I had looked forward with blissful pleasure to the coming days of companionship with the children. When we arrived I looked at them and they stared at me. I became conscious for the first time in my life of my clothes, which I suppose were particularly German. They spoke to me, but I could not understand. I shyly attempted a German phrase; no answer, but giggles. Then began the inquisition of my childhood, with trembling heart and burning eyes I stood the taunts and jeers of the children. For months a positive horror seized me at the sight of a child; but the dogs, my own thirteen cats, and best of all, Pansy, my calf, filled my soul with rapture. After a short acquaintance, however, the treadmill of city streets and the primness of city houses called me, and from then my country life ended till my own farm claimed me. Until now, cows figured in my scheme of life only as an artistic addition to the landscape. Nevertheless, we celebrated the establishing of our farm with the purchase of a cow. Her hair had that sandy, middle-aged look, and so bony and horny was this creature that she must have been some relation to the hat rack. As she walked down the hill to the stable, her feet twisting about oddly at each step, she had the grim, determined look of an old family servant whose sole wish in life is to run the affairs of her young mistress. The next morning, while paying obeisance to the new member of our family, our man gave me a list of the cow's needs. "We'll be afther wantin' a milkin' stool for 'er." A milking stool for the cow??" I repeated. "That's funny; does a cow really sit on a stool while you milk her?" The grin which spread over the features of our man jogged my memory of those pastural paintings which show the correct position of the cow during this operation of her motherly duties. It may be of use to someone taking up this simple farming life as hobby or business to learn of the statistics for seven months founded on actual experience. Based on an average consumption of five to six quarts of milk daily for this period, the total value approximated $90. We made 27 pounds of fresh butter, which, at 37 cents a pound, amounted to $10:

Cost of cow	$56
Grain feed	25
	$81
Value of milk, average 6 quarts daily for seven months, at 8 cents per quart	$100
Value of butter, 27 pounds, at 37 cents	10
Sale of cow	47
Total receipts	$157
Total expenses	81
Net profit	$76



Our aim was to make the place pay for itself, and certainly our lone cow never lacked for hay

The item of food is small, as we raised all the hay on the place. Farmers, I believe, usually aim to raise chickens of one breed of whatever variety they consider the most productive. I, however, had no reason for choosing Rhode Island Reds except for their auburn coloring, which had a peculiar fascination for me. Our man in spare moments built a coop for them 9 by 12 feet, and extended the wire enclosure into the woods, thereby supplying shade in summer. The lumber and wire netting cost us about $40, and this was the only expense attached to the poultry quarters. I never succeeded in interesting myself in chickens sufficiently to superintend their diet, but I do know they had plenty of water and green stuff, having their heavy meal in the middle of the day. In winter we gave them hot bran in the morning; and in summer, cracked wheat. We also sprinkled charcoal and oyster shells about the yard. They seemed to thrive on this simple method of feeding, as the statistics show:



When we look back at the building of the house, we recall the first thrill of completed endeavor



Fortunately, on entering the new house, we were possessed of little furniture, so we were able to furnish it fittingly

We bought 22 chickens for	$11.00
Feed cost for six months	14.50
	$25.50
The amount of eggs were valued at	$22.00
The amount of chickens for table use at	15.00
The amount of chickens marketed at	10.00
Total receipts	$47.00
Total expenses	25.50
Profit	$21.50

Orchards of dwarf trees are becoming more and more popular, and I acknowledge in every way their superiority save one, for the delights of childhood.

What can be more practical than the old-fashioned apple tree whose twisted limbs bend themselves so ideally for housekeeping purposes? We have four trees of the russet variety. The first year they bore the most wretched, miniature apples, and I attributed this entirely to their age. I happened to mention the subject to our agricultural expert, and he told me we would have surprising results if we put the trees through a rejuvenating process. The trees were fairly loaded with dead wood. This we entirely cut out, and pruned some of the cross branches and those that filled up the top. There were huge cavities in the trunks, filled with leaves, worms and decayed wood. I reserved this last piece of work to do myself. With various tools I pulled and dug, always keeping in mind the nuggets of gold concealed in their depths. I may well say that my search was rewarded in the results the trees showed. When all cleared out we sprayed into the cavities sulphate of copper, 1 pound, dissolved in two gallonslons of water to disinfect them. We then mixed 1 pound of cement with 4 pounds of coarse sand, and filled all the cavities. We used No. 1,188 fruit-all sprayer, mounted on a barrel, which has given great satisfaction. Quantities of rocks and stones surrounding the trees were dragged off and the earth ploughed and harrowed. The trees were then sprayed for San Jose scale with a mixture of Scalicide, 1 gallon in 12 gallons of water. After the blossoms fell we sprayed the trees with 1 quart of Sulfocide in 50 gallons of water, to which we added 4 ounces of Paris green. That fall we gathered up six barrels of russets, most of which were a splendid size and delicious flavor. Part way down the hill we started a small dwarf orchard, and set the trees from 10 to 12 feet apart, as they only grow 8 to 9 feet high. This is a list of our orchard trees: Williams favorite Sweet Bough, yellow transparent, Chenango strawberry, McIntosh Fed Fall Pippin, Wealthy Green Golden. For other fruit we ordered the Anjon Pear, Clapp's dwarf pear, Duchess Dangonlane, Old Mixon peach, Lawrence pear, Bartlett pear, Bradshaw plum, German prune plum, Sheldon pear, Sickle pear, Lombard pear, Abundance plum; $175 covers the entire cost of trees, shrubs, fruit trees and flowers, excepting the maples.



A sturdy furniture of no exact period fitted well with the Colonial sideboard and incidental pieces

It may seen unreasonable, but I believe the person is to be congratulated who, on entering a new house, is possessed of very little furniture. How often we see crowded into a house furniture

which is absolutely incongruous in design with its surroundings. Furniture of the hideous Queen Anne style in a stately Colonial house, or delicate gilt reception chairs in a quaint little farm house. The furniture which had filled our first small home was entirely lost when put in place in the new one. The evening after the arrival of the vans, David, on entering, gave a whistle of astonishment. "Heavens! we can't live in the house this way; why, its a regular barn. I won't buy ordinary furniture, and I can't afford to get the kind we do want; how absolutely provoking!" "Not at all," I replied. "We will fill in with wicker furniture."



We did not purchase our furniture in haste, but waited until we could get just the things we wanted

We had only a few small rugs, so we begged, borrowed and stole from our family all their old carpets and had them made into two large and attractive, soft-toned rag-rugs for living and dining rooms, and used quaint little cotton rag-rugs for the bedroom. We purchased a couch, chairs and tables of finely woven grey-green wicker. Now came the question of hangings. I bought a quantity of crêtonne with yellowish flowers on a cream background. On either side of the casement windows we drove giant hook screws. Upon these we placed flat, wooden poles 8 feet long, 4 inches wide and 2 inches thick, with eyes at each end to drop upon the screw hook. At intervals of 4 inches we hammered in small staples, and the framework was ready for the pleated valance and portieres. A long strip of crêtonne was then cut, and a strip of buckram was sewn along the upper edge. This was turned over and the pleating commenced. Every 4 inches the material was marked, and, by gathering a space of 2 inches together, the pleat was made. To each of these pleats a hook was fastened. When completed, the valance was merely hooked into place on the rods. The side portieres of the windows were folded into larger plaits and hooked on in the same way. For the few upholstered pieces in the room, slip covers were made, also cushions for the wicker furniture. Portieres to match were arranged to be drawn across the wide doorway, but usually were left hanging far apart. In this way the room was decorated with attractive summer hangings at very little cost, being easily removed when winter demanded heavier hangings. The bedrooms were furnished more completely in the first place than the living room. The guest room was fitted out with a very old set of my grandmother's furniture of heavy, white Colonial style. The huge bed, having four slender tapering posts of solid iron which reached the ceiling, was draped across the top with a muslin curtain and a valance, lending a quaint air to the room. No rugs could be more fitting here than the light-colored rag rugs. We made out a list of the furniture we wished eventually to add to our supply. The necessity of doing this slowly eliminated the possibility of making mistakes in the selection. Many times I saw pieces which I would have bought with very little consideration had I been able to, but unfortunately only the pieces which we fairly craved were added. As each piece came we made room for it when necessary by moving the wicker furniture to the piazza and sleeping porch. I could not count the many streets through which I have wandered in search of furniture, though never glancing at the stores labeled with the sign "Antiques," but always peering about for second-hand furniture stores. One day, walking uptown on the far west side of the city, I saw a few dilapidated chairs of ugly design before a dingy store. I entered and looked about for a moment before anyone replied to the ring of the bell. I took in at a glance the mass of disorderly china, rugs and furniture smirched with dust and cobwebs. "Here I will spend the morning," I said to myself, and I did. In the dimness at the end of the room I heard someone shuffle towards me, and then saw a true Dickens character in the elderly, stooping shopkeeper. His mild, blue eyes gazed at me as in a friendly dream. In very English accents he responded to my question. I stated that I had a sparsely furnished new home, and wished to look about awhile to see if any of his things might be suitable enough to add to it. He led me to a sideboard which he considered positively gorgeous in its elaborate turreted carvings. I politely admitted it, and then turned away. "What is that under this pile of rugs?" I laid my fingers on a small piece of wood showing from beneath. "I do not think you would care for



The question of hangings was solved by a flowered cretonne which created a bright and cheerful atmosphere



In one of the bedrooms I made cretonne slip covers for the furniture and matched it with portieres and window-valance

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A garden entirely of roses laid out after the formal French manner

Roses for Every Garden

PLANNING AND PLANTING A ROSE GARDEN—DIRECTIONS FOR PROPER CULTURE—HOW VARIETIES HAVE BEEN IMPROVED AND WHAT THEIR CHARACTERISTICS ARE

BY F. F. ROCKWELL

Photographs by Ella M. Boult, Mary H. Northend and N. R. Graves



Paul Neyron is one of the favorite hybrid perpetuals with delicate creamy tinted blossoms of a large size

DESPITE a prevalent belief to the contrary, a rose garden is not a luxury reserved for the specialist. Recent improvements in gardening methods, and new varieties of roses suited to every condition, make possible for any amateur a garden of these popular flowers. You can have a rose garden without a gardener; you can have beautiful roses for cutting without a garden at all! You can have them in festoons over the porch, with the foliage clean and green all summer, in place of the mildewed foliage of a crimson rambler, which has been superseded by a newer and better climber for arbor or trellis. Then there are dwarf sorts that are splendid for low hedges or for mass bedding, that bloom continuously throughout the season. Others are adapted to covering unsightly banks.

In planning a rose garden, the quality of the flowers should be the prime consideration, and the beginner will do well to buy from a reliable firm. Then you will have to choose between dormant and potted plants. The latter cost more, but will give

quicker and more certain results. In comparing prices you should note carefully all remarks and all *omitted* statements as to size, age, whether dormant or potted, etc.

When you are ordering you should also be careful to state *when* you want your plants shipped. *Dormant* roses should be planted just as early in the spring as the ground can be worked; not later than mid-April for this latitude. The two special precautions to take in handling the dormant roots are to plant them deep enough so that the joint or union where they have been grafted will be three inches or so below the surface; and to keep the roots from drying out before you plant. This point where the bud was united to the root-stock in grafting will be noticeable by an enlargement and a scar. Any sprouts coming from *below* the graft will have to be removed at once. They will be readily distinguished from the legitimate ones by the fact that each leaf has seven, instead of five, small leaflets. The roots of dormant plants are shipped carefully wrapped. As soon as you receive them, soak them for several hours in a pail of water, with burlap and moss packing around them. If for any reason you should have to keep them for several days before setting out, dig a shallow trench, pack them in it closely and cover the roots with fine, firmly packed soil. The plants from pots may be kept anywhere it is light and protected from frost, taking care, of course, not to let the balls of earth and roots get dried out.

The preparation of the beds is an important subject; and as roses are grown more generally in regular beds than any other way, let us review first the conditions which are essential to success with garden culture. In the first place, the site picked out should get the full sun, or as near it as possible. Then it should be well drained; roses like a fairly heavy soil, but not a wet one. And it should be, if possible, well "ventilated"; that is, located in a breezy and airy spot, as this will make a material difference in the health of the plants and of the foliage. Nevertheless, if you cannot procure all these conditions ideally, don't get discouraged; careful work and a little ingenuity will overcome many natural obstacles.



The blood-red Richmond is interesting for its bud-like flowers; it may be trained as a climber



The old favorite perpetual, Frau Karl Druschki, now has a new and striking pink form

If a regular garden is to be made, measure it off carefully, so that the position of the beds can be determined. For the best results these should be dug out and filled with specially prepared soil. It is not such a difficult task to do this if one has the proper ingredients at hand—plenty of manure and good, heavy loam, preferably largely made up of sod from the roadside or a good pasture. The depth to which the beds should be dug out will depend upon the nature of the soil. Usually two feet will not be too much, and six, or even twelve, inches more better still. If the subsoil is stiff it should be broken up as deeply as possible with a pick before filling the bed in. In digging the bed out, be careful to throw the sod and good loam to one side, so they may be used, while gravel and worthless subsoil may be carted off. After digging the beds out, unless the subsoil is sandy or gravelly, fill in eight to twelve inches with land plaster, cinders, broken brick, or coarse gravel; and over this—to keep the soil from sifting down through—put a layer of sod, straw or manure.



The climbing ramblers have been improved of late. They now have large, wide-open flowers of remarkable beauty

The soil for filling in the beds should be well enriched. If some has to be brought in to take the place of that which has been thrown out, get it as heavy and stiff as possible. If a good proportion of sod may be had, so much the better, but chop it up quite fine. In making a bed some years ago I used heavy mud taken from the bottom of a shallow pond, and this, mixed with the garden soil, gave excellent results. As the soil is put back into the trenches, plenty of manure should be added; there is little danger of getting too much. Cow manure is to be preferred, but other will do if that is not to be had. Commercial "shredded cattle manure" can now be bought by the bag, and is very satisfactory. If the bed is to be planted soon after making, the manure should be well rotted. Also the soil should be firmly tramped down, but not packed hard, when being put into the trench. Along with the manure it is very desirable, though not essential, to use a good sprinkling of coarse, or "inch," bone. If manure is not to be had, a good dressing of hngh-grade fertilizer and of coarse bone should be worked into the soil, but the manure is to be preferred. The top six to eight inches of soil should be clean, rich loam, without manure. If it is deemed not rich enough, add a little bone flour. We want to induce the rose roots to strike *down,* out of the way of drouth

and cultivation. If many roses are to be planted, prepare the beds for the hybrid perpetuals with extra heavy soil. The hybrid teas, and teas themselves, take more kindly to a lighter soil.

In width the beds may be three to four feet. It is desirable to have them wide enough for two rows of plants, which may be cared for and picked without tramping on the bed. The hybrid perpetuals are usually placed two feet apart, and teas and hybrid teas eighteen inches. If the plants are set nine inches from either edge this will give a width of three feet for the latter and three and a half for the former. Or the perpetuals may be set one foot from either edge, which will give a width of four feet for them. The paths between the beds, which may be of grass or cinders, should be wide enough for convenient use, usually four to five feet. If the beds can be prepared some time in advance of planting, so much the better, as it gives them time to settle. In any case, the surface of the planted beds should be an inch below the borders, and should be quite level, except in the case of a round bed, which may be very gradually rounded off to show off the center plants to better advantage, but not with pitch enough to let the rain run off to the edge.



As a hedge or for peeping over the wall the wichuriana roses are not as much planted as they should be. Their form is beautiful and their foliage attractive

Having the beds ready and the plants on hand, the job of setting the plants is not a difficult one, but it must be carefully and thoroughly done. I have already mentioned that the plants are shipped either as dormant roots or from pots. There is a difference in plants, however. Those potted up in the fall and carried over in a cold house, starting into growth naturally in the spring, being much hardier, and therefore fit for earlier planting, than plants which have been kept in an actively growing condition all winter. The roots of the dormant plants should be looked over, and any that are bruised or broken cut back to firm wood. When setting the plants in the soil the roots should be spread out in their natural position. Pack the soil in about them carefully, taking care to leave no air spaces. The pot plants are set so the ball is an inch or two below the surface. Whether dormant or potted plants are being set out, the most important thing is to get them in *firmly* enough. After they are in position, pack the earth down firmly about them, pouring in a pint or so of water at the bottom of the hole.

The three most important classes of roses for garden culture are the hybrid perpetuals, hybrid teas, and teas; the hybrid teas, all things considered, taking first place. Get the distinctions between these three classes firmly fixed in your mind before ordering. First of all, the hybrid perpetuals are *not* perpetual in the sense of being ever-blooming. They flower freely from the latter part of May to the beginning of July; and occasionally again towards the middle of September, but this second flowering usually does not amount to much. They are the hardiest of the garden roses, and contain some of the very best roses, such splendid sorts as Frau Karl Druschki and General Jacqueminot. The teas, on the other hand, are the most con-

(*Continued on page* 403)



So few Americans make the rose gardens that one sees everywhere in Europe. If some place may be set off only for the fragrance and beauty of the rose, it more than rewards the effort. Here is a corner of the beautiful rose garden planted by Mr [illegible]inley Shepard, *nee* Helen Gould. Note how the roses are grouped, how grass paths are used, and a thick planting of foliage protects and acts as a backgroun



CLOVERLY AND "THE HOUSE NEXT DOOR"



AN IMPRESSION OF HOW AN OLD BRICK HOUSE WAS RESTORED TO GIVE THE FEELING OF OTHER DAYS—THE JUDICIOUS USE OF ANTIQUES IN CREATING A FITTING ATMOSPHERE

BY FANNY SAGE STONE

Photographs by the Author

IT is always a beautiful drive over to Cloverly. A constantly changing scene. Up and down hills we went one day in June, over good country roads, through busy little villages, on past glistening lakes and rivers. All along the roadsides were hedges of sweet clover. How the bees loved it, and how sweet was the air! Were ever birds more musical and numerous? The saucy bobolinks sang ripples of song all around us and over our heads; song sparrows called from the fences; meadow larks whistled from the fields; all seeming to welcome and cheer us on our way.

Nothing could have been more restful and fascinating than Cloverly as I first saw it. Quiet and cleanliness, clear air and sunshine; beautiful views of well-kept fields of tobacco and grain; no smoke; no trains—not even a sidewalk to announce the coming of a person. Just a picture of peace and quiet it seemed.

To be sure, there are rumors of a time when the place promised to be the scene of a busy, active life, but now—well, now it is not even a village. Its twenty families live in quaint little brick houses facing the green, or on the "other street." There is the little school house and the church, where many years ago services were held, and where a now prominent city clergyman led the little flock of people who worshipped there. But this was in the long ago, and the story of a place that expected and got ready for a railroad that did not come is a familiar one in every locality. So, because the rails were laid in another direction, the pretty red houses were finally left empty, and their owners followed after the steel rails that had played pitch and toss with their fortunes. The lovely gardens grew into tangles of weeds and flowers that flourish in spite of neglect; paths were overgrown and soon lost; fences and steps rotted away, and the bees and birds moved in to claim ownership of all.



An old Colonial sofa is drawn before the fireplace and upon the walls are thoroughly consistent prints and etchings fitting the period of the house

It was one of these houses that was purchased by the teacher, who longed for a quiet summer home. Her mind was full of happy memories of Cloverly in the long years past, when she had lived there as a little girl, and loved the life—the life that to her childish mind was full of bustle and gayety.

She remembered it all, and had longed to go back, and now she was to spend her summers in dear old Cloverly. The home she established was a most hospitable one; the latch-string was always out constantly being pulled. When the Craftsman came to visit, the spell of the place possessed him, and "The House Next Door" became his.

I have always been glad I saw this house before the hand of improvement had been laid upon it, for never could I have believed that any place could have been so transformed in four short weeks. But busy carpenters, painters and paper hangers can work wonders, and "The House Next Door" at the end of the month was so homelike, artistic and inviting that it was hard to believe it had ever been otherwise.

This place had been originally the pride of Cloverly and its



The dining-room is equipped with one of the delicate-legged, folding tables of Colonial times and the graceful rush-seated chairs of simple lines

gardens the most admired of all. When the Craftsman bought it the burdocks in the yard were like young trees (the well was hidden by them completely), the matrimony vine ran all over the steps and in and out of the blinds. It had even worked its way through the clapboards into the cellar. (It is hard to kill a matrimony vine, it seems.) The lilac bushes were strong, large and beautiful after a little trimming; the locust trees and elderberry bushes were really flourishing, and a few of the orchard trees still bearing.

In the border along the fence there were snowberry and syringa bushes, wild gooseberry and flowering currants. Lilies of the valley, blue bells and tulips were found in the little garden in front of the house, and not far away were corn lilies and Bouncing Bet, as thrifty as ever. One could not understand how these things had survived in the midst of the tangle of weeds. Is there anything more pathetic than an abandoned garden? Houses recuperate so much more quickly.

After considerable clipping and trimming, digging and grubbing, old trees took on new life; paths were once more established; the little cobblestone walk leading from the gate to the front door was uncovered (it had been entirely overgrown); and everything seemed to respond with a sort of thank-you look for being rescued from such a choked condition.

The "House Next Door" is of red brick and faces the east. On the north is a "wing," which the Craftsman uses as a kitchen. The front door opens into a long hall, at the south of which is the living room, and at its end the dining room. South of the dining room is a small bedroom, and on the north the large kitchen, which has outside doors to the east and west. No changes were made in the arrangement of the rooms. There was enough to do in leveling floors, putting on plaster where it was needed, roofing the house anew, making chimneys secure and rehanging and fitting doors. The fireplace had to be unearthed, for it had been bricked up and plastered over. It was a day of jubilee when it was finally in shape; a fire was built in it for the first time, and a safe and satisfactory flue was demonstrated. Paper had to be scraped off the walls, layer after layer. The people who had lived there evidently had scruples against removing any. It seemed an endless task, for the paste used by these early residents was no poor stuff. The cellar was in good condition, cool and sweet after a little cleaning; so also was the cistern. Window glass was broken everywhere, and even window frames were necessary. Outside steps had to be replaced; blinds were badly broken, and of course everything needed paint.



The pewter decorations, the touch of color in print and in soft-toned rugs show good grouping



All the furniture is either mahogany or rosewood—some is delicate, some a trifle heavy, but with the rose-garlanded paper there is harmony resultant

After plasterers and carpenters had done their work, the Craftsman, with the help of a young boy and one of the good neighbors, went to work at what appeared to us an impossibility. Think of getting an old, abandoned house ready for occupancy in four short weeks; and more than that, it had to be ready, for guests were to arrive, and the house must be comfortable and attractive, too. Well! it was done. Those were busy days and busy people in "The House Next Door."

The bees had been preparing for new tenants for a long while. They had discovered a little opening in the roof, and had been well established in the attic for many seasons, apparently. The supply of honey was great and the flavor of it the very best, as the Craftsman and his friends found.

The woodwork throughout the entire house was painted white, the floors dark green. The living-room and hall were papered in a light corn yellow paper

which had a tiny stripe of the same color; the dining room in a light gray ground with a little conventional vine in soft blue. The living-room has one south and two east windows, with deep casements.

Every article of furniture in "The House Next Door" is antique—really antique—for the Craftsman is also a collector, and has been busy for many years finding and restoring the old pieces that he treasures so highly. Interesting, indeed, are the tales that he tells of them all; of the people who had owned them and of the strange places where he had found them tucked away.

The living-room is really a restoration true to precedent, with its great open fireplace, old andirons, fender, bellows, shovel, tongs, and even a foot-stove. On the mantel is a clock that ticks away loudly, reminding one of what one already knows, that time flies away all too fast in Cloverly. This clock might tell many an interesting tale could it recount its experiences in crossing the Plains in a prairie schooner way back in '51. Fine old prints, engravings and silhouettes hang on the walls in this room. The silhouettes give one just a hint of Lois Clark and Beriah Treat, who were born in Connecticut in 1720. The old piano that is still sweet in tone and beautiful in its rosewood case, dates back to the early forties. When the Musician played Gluck's Gavotte for us while we sat near in the twilight it really seemed as if the dear old instrument was expressing to us its own feelings. Books printed in the olden times are on the shelves. It was a pleasure to take down Hannah Kinne's English Reader, printed and sold by William Williams, of Utica, N. Y., in 1819. Sitting on the old davenport before the open fire, we always turned to the poem "The Fireside," and, reading it, we forgot the present and found ourselves back in the olden days where life was simple and restful. These are the first three verses of Cotton's poem: Are they not exactly suited to Cloverly and "The House Next Door?"



The living-room mantel shows a very simple arrangement of clock, pictures and bric-a-brac, but one combining the effects of color and an appreciation of the feeling of the times



Even in the kitchen there is the atmosphere of other days in the numerous copper vessels of practical aspect

Dear Chloe, while the busy crowd,
The vain, the wealthy and the proud,
In folly's maze advance;
Tho' singularity and pride
Be call'd our choice, we'll step aside,
Nor join the giddy dance.
From the gay world we'll oft' retire
To our own family and fire,
Where love our hours employs;
No noisy neighbor enters here;
No intermeddling stranger near
To spoil our heartfelt joys.
If solid happiness we prize,
Within our breast this jewel lies;
And they are fools who roam;
The world has nothing to bestow;
From our own selves our joys must flow.
And that dear hut, our home.

There are vases and candlesticks of unusual design in this room, and on the floor hand-braided rugs that are a joy forever. On the mantel is a copper bowl that seems to have been made for the flowers of saffron that it usually holds. Nothing could be prettier here than these blossoms with varying shades of yellow, rich and deep, and nothing could set off the dainty little blue vase on the butternut table near the fireplace as well as does the light-colored spray of the matrimony vine that had worked its way into the cellar and was trying its best to grow there. When no fire burned in the fireplace we were all interested in the huge knot of wood resting on the andirons. It was wonderful in its grain, its markings, and, too, in the numerous cavities made by the woodpecker's strong bill.

There are rare old things and rare new things served in the

(*Continued on page* 397)



Every room of The House Next Door endeavors to express the sturdy simplicity of our American Colonial period and its adaptability to our present needs

MAKING A GARDEN THEATRE

THE POSSIBILITIES OF THE GARDEN FOR DRAMATIC PERFORMANCES—THE REQUIREMENTS AND CONSTRUCTION OF A GARDEN THEATRE

BY GRACE TABOR

EDITOR'S NOTE: *The plans of the theatre of the Villa Collodi are drawn by Professor H. V. Hubbard and are furnished by courtesy of Landscape Architecture, where they appeared in connection with an article by Professor Hubbard. The two remaining plans are rendered by W. H. Butterfield. The picture at the head of this article shows a scene in the garden of Mrs. Clara Hinton Gould, Santa Barbara, California, the scenic possibilities of which were utilized by the American Film Company in producing a picture drama.*

WHILE it is not within my province just here and now to go into the merits of dramatic impersonation as an educational factor in child life, as well as a stimulating and delightful form of recreation for all ages, I feel that I must make some reference to this in presenting for serious consideration so new a garden feature as the garden theatre—new at least to us here in America. For it is as a great deal more than mere garden novelty—more even than inviting play space—that I would ask to have it considered, although its claims to consideration on these grounds are the highest and most urgent

Very wonderful discoveries have been made, however, within just a very few years about the function of this instinct of play—of make-believe—that man shares only with the higher animals; and very wonderful things they are telling us—those whose lives are devoted to the study of these things—about the potentialities of this instinct for character building; for modeling, indeed, the entire being as growth advances.



Garden ornaments are often appropriate for stage fittings. Here a vine-clad wall has been used as a background

As these claims come more and more to be demonstrated—as seems bound to be, for they are undoubtedly sound and scientifically true and demonstrable—dramatic performance must come more and more to be accorded the high place in the life of the child, particularly that its importance demands. Hence the garden theatre comes at once to fill a real need where there are children.

But the possibilities of such a feature in any garden, anywhere, can hardly be exaggerated, opening up as it does an entire field of entertainment commonly limited to indoors, for one thing; to the winter season because of being limited to indoors, for another; and to the exceptional house, finally and most positively. Moreover, the arrangement of such space as may be given up to it may very easily present itself as an attractive garden motif, apart from its entertainment purpose. So there is absolutely nothing to be lost and a very great deal that may be gained in the adoption of the idea.

The garden theatre need not be large, and it may be small—quite small, indeed. As a matter of fact, it may be just a bit of a great garden, or it may be all that there is of a tiny one—for it is as elastic a motif almost as any other, and as adaptable to circumstances and sites. In Italy, where they first came into existence in company with the many other garden features and conceits which the people of this warm land delighted in, they seem to range in size from 60 by 75 feet, approximately, to about 100 by 150, one-half of this space, or a trifle less, usually being "stage," and the other half auditorium or "pit." And, of course, they show the exquisite precision of line and design that distinguishes Italian garden work generally; which means that it is only the exceptional estate here to which the Italian type of garden theatre, unaltered, is suited. Generally speaking, a treatment a little less artificial will meet our



Such architectural features as the pergola may readily be utilized as a basis for the design of a garden theatre



A terrace of two levels here has great possibilities for a garden stage, the ivy wall forming the background and the pergola giving the suggestion of a house

requirements and situations better, and produce a more harmonious effect in the garden—as well as a more pleasing setting for plays, spectacles or entertainments of any kind, as these may be given..

Commonly, of course, we think of a play house as a building with two floor levels, the higher devoted to the performance, the lower for the audience. This is purely an arbitrary assumption of the relation between audience and performers, however, and it need not of necessity be carried out in the outdoor theatre, if the nature of the site available makes such relation difficult to accomplish. Sometimes, indeed, it may happen that the lay of the land, using it to best advantage generally, will actually reverse the positions, putting audience higher than performers; and this is perfectly practicable and not in the least a hindrance to the carrying out of the scheme. It only means that all the plan must be carefully and definitely calculated to assure the uninterrupted vision of auditors in every position; and it amounts in effect, of course, to placing the audience all in a balcony instead of in a pit.

A dozen places may be available for auditorium and stage on a place, or in a garden of very modest size. The first step towards realizing the garden theatre is, of course, to select from these the very best site; and to select the best, means to examine each with a certain standard of requirements in mind. Comfort, seclusion, adaptability and accessibility—these are the four principal points to be considered, the first being the most important, of course, for no one is going to enjoy anything if physical discomfort presses heavily on the consciousness. Moreover, little can be done to create the conditions necessary for comfort where natural conditions are unfavorable; whereas a site may be secluded and adapted and inaccessibility may be overcome by judicious treatment.



This open space in the garden among the willows is naturally suited for an outdoor stage. It fills many of the requirements for a garden theatre, such as comfort, seclusion and adaptability

The greatest attributes of comfort in the summer time lie in shade and cooling breezes, unquestionably; so the selection of the site should be dominated by this consideration of proper exposure. And all planting should be arranged to provide the shade desired over auditorium and stage, with a view to making the most of this exposure and offering never the least obstruction to a vagrant zephyr.

A situation which brings stage and auditorium east and west of each other so that the entire side of the theatre may receive the southern breeze will be found to meet the requirements usually than one which places them in north-south relative positions. Of course, if the prevailing summer breeze is from another direction, rather than from the south, however, this will not hold. But it is simply a matter of planning to have the side open to the prevailing wind, whencesoever it may come.

Where stage and auditorium space cannot both be exposed to it, sacrifice the stage always to the comfort of the rest; and in all else consider the auditor rather than the entertainer.

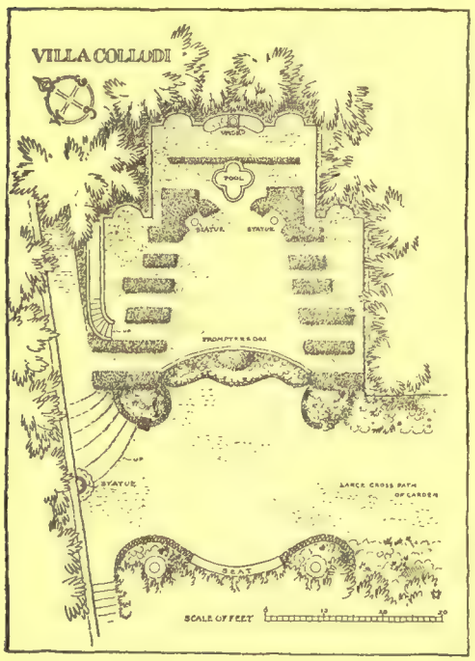
While shade over all would undoubtedly be agreeable, a stage all in shadow is not as picturesque as one whereon the sunlight falls for at least a third of its area. And many of the Italian garden theatres boast no shade whatsoever over any portion; but this means, of course, that they were meant for evening entertainment only—which is limiting their use altogether too strictly when their really great possibilities and advantages are considered. Provide shade for auditors and part shade for the stage, and thus make it possible to realize to the fullest degree all these advantages.

An interesting approach to the theatre where this is in the midst of other garden features on a large place, or where any real approach is possible, should be planned—for the sense of departing from the ordinary *into* the extraordinary, out from the actual and perhaps the commonplace, into the make-believe and unusual is to be aroused and emphasized by every possible touch. And in garden design nothing emphasizes any given feature or point quite to the degree that "leading up to it literally does. Lead up to the theatre, therefore, by some means or



The charm of the outdoor play lies in such natural scenery as this

other that in itself is impressive. There are many such—impressive, please note; not imposing—and even a theatre that lies at no distance at all from the dwelling and the commonly trodden garden ways may be provided with an approach and entrance that will definitely set it apart and create a sense of its special function. The feature of such an approach is the gradual narrowing down and concentration of attention and interest into what is to be arrived at—in other words, into expectancy which shall have become eager by the time the theatre itself opens to view. The one certain means of accomplishing this is summed up in the word simplicity; and the simplest and richest of all garden ways is the one that lies within enclosing lines of green hedge wall. So, whether the theatre itself is designed along naturalistic lines or is truly after the precise Italian mode, and whether it lies at the heart of a wood or is an actual part of the gardens, plan if possible a main approach for the use of those who are to be entertained therein in the form of a hedge-bounded path or walk, from which naught but the overhead sky is visible. Ultimately, even this may well be closed out by uniting the hedge branches overhead in the old fashion known as bleaching, until a cool, dim, green tunnel draws all attention to the point of exit—which is the theatre.



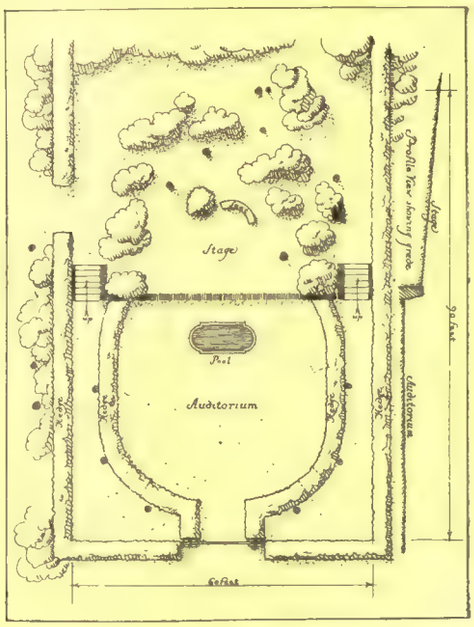
Plan of the Villa Collodi theatre, showing the arrangement and disposition of hedges. The audience will occupy the space in the foreground



Perspective of the garden theatre at the Villa Collodi, with hedges performing the functions of background and wings

This is the treatment at the Villa Gori, near Sienna, in Italy, the tunnel being of ilex over four hundred feet long and about twelve feet wide within. Obviously, a walk along its dim length is well calculated to bring attention and expectation very definitely to a focus upon the brilliant opening ahead where the theatre lies, flooded with the shimmering light of the sun as it shines only in Italy.

It might seem that an arbor would provide equally well the uninterrupted seclusion desirable in all entrance ways, but it just misses doing so because it is made up of two elements instead of one. There is the structure as well as the screen of greenery; wherefore it is only half as simple—and correspondingly less impressive. But next to a hedged walk an arbored walk has first claim—providing the structure is kept down to its simplest and most unobtrusive elements. Remember that the aim should always be to isolate the individual, to separate him (through this isolation) from his usual thoughts, and in this way to keep up expectancy; and then suddenly to reward this expectancy—to reveal the carefully concealed, and to astonish and stimulate by force of contrast.



A suggested plan for an outdoor theatre, with dimensions. Profile view showing grade on the right

To this end it is obvious that the garden theatre should be set apart and hidden for best effect; but where the lay of the land makes such location of it out of the question, it is still possible to provide an approach that will accomplish much, if not all, of the foregoing. For even the simplest garden arch which one must pass under will provide a sense of separateness; and, indeed, the theatre might occupy an entire small garden if this space were limited to the single entrance thus arched, before which perhaps a tiny bit of lawn should form an ante space.

The average place running from a half acre in size up has usually one or two spots perfectly adapted to a garden theatre without a great deal of altering and contriving. A lawn corner well planted with shrubbery frequently will form a perfect stage of the natural or landscape type, with the addition of a few shrubs to afford exits if the

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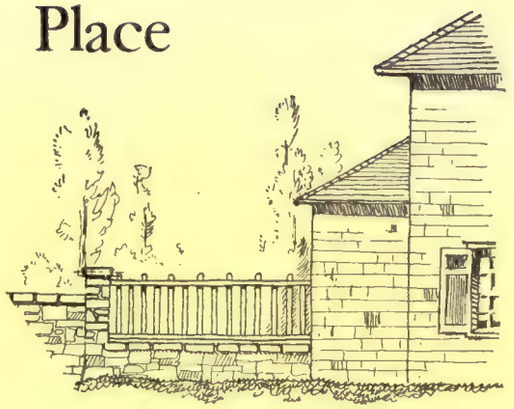


A natural arrangement of the trees and shrubs is desirable for the above plan. *California privet* will make an excellent boundary hedge

The Boundary for the Country Place

FENCES AND WALLS OF DIFFERENT MATERIALS—HOW TO BUILD THEM AND AN INDICATION OF THEIR FITNESS

BY W. H. BUTTERFIELD



Where a stone wall joins the house the disparity of materials may be made less noticeable by using a wood fence in combination with the stone

IF the line of boundary, whether a fence, a wall or a hedge, is placed at the border of your property with that of someone else, it is well to consult the law as to what constitutes a "legal fence." The various States have their own laws. They govern the height and the material and proclaim usually that each party to a boundary shall maintain his half, consequently you have no control over the portion which does not face your land. If you wish complete control of the fence or wall it must be entirely on your property. The above points might be kept in mind while determining the form your boundary line is to take.

Fences are usually of wood, iron, wire or their combinations. The commonest form of fence, pure and simple, is of wood. This is very natural, as wood is our easiest-worked material and comes in convenient shapes and sizes. Early forms of wood fences are the snake, split rail and stump. Later came the dressed rail and the board and picket fence, and such elaborate types as are seen on large, formal places, where lattice work, balustraded fences, hoop fences and many with combinations of the above occur.



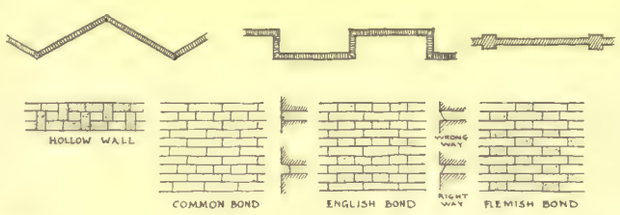
Iron fences are to-day found in either wrought or cast iron, with designs suitably in accord with the architectural detail of the house

The best we can say about the snake fence is that it is picturesque, which is another horribly misused word. Yet when used to border an old pasture or encircle a wood lot, the snake fence fits into its surroundings so well that we are apt to forgive it its faults, for it surely has some. It is not a permanent type, and, as it is only used for economy and speed of construction, it can be dismissed from the remainder of these pages.

The more usual forms of wood fences are board and picket. They are simple in construction, the members consisting of boards or pickets secured to horizontal members, which are in turn supported by uprights in the ground. The most important member is the upright. The others are easier to renew and cheaper to procure, therefore care is taken to use wood that is least affected by contact with earth. Of the common woods for this purpose, locust and chestnut are the best. The more seasoned the wood is the better, and to insure longer life the ends in the ground can be treated; in fact, all wood coming in contact with the earth should be treated for preservation. Charring is one way. The end is held over a fire until it is well blackened, both the tip and the sides, to a point well above grade. Other methods of preservation are peeling, seasoning and painting.

Whatever method is employed, carry the treatment above the ground line, as it is at this point where the surface is exposed to more frequent conditions of dryness and dampness. it is due to these constant changes that wet-rot sets in. Notice any wooden post that is decaying, and you will see just at the ground line a deeper area of corrosion. Grade the earth away from the post. Water should not be allowed to stand or collect on or near any woodwork, therefore it is well to bevel the tops of the posts so that rain will quickly run off. Posts of old fences sometimes were set on large stones level with the ground and secured to them by iron dowels.

The posts are best when set three feet in the ground and eight or ten feet apart. The quickest, cheapest form is to nail the rails to the posts and the pickets or boards to the rails. Of course, galvanized nails should be used. A better way is to let the rails into the posts, either at the sides or through the center and bolt them, while a still better way is to continue by cutting out holes in the rails and passing the ends of the pickets through those. Then, when all are nailed, you have a stouter fence. However, in this case it is not quite as easy to renew a broken picket or a split rail. For a cheap fence, four by four-inch posts, two by four rails and pickets seven-eighths of an inch square, two inches apart, may be used, but it is much better to have the posts at least six by six and the pickets one inch or one and one-eighth inches square. At times when a lightness and grace of design is desired the smaller size pickets are used.



Walls of a single layer of brick can be stable if laid in zigzags or braced with pins (upper diagram). At the left is a plan of a hollow wall. The other diagrams show bonding and the various methods of raking mortar joints

An interesting fence is often made by using boards of random widths placed vertically to the rails. These boards vary from three to six inches in width, and often the tops are cut in uneven

lines or follow a curve from post to post

There is a form of tight board fence that is occasionally used, and one that does not allow the joints between the boards to open up. The boards, while set vertically, are lapped in the same way as siding or clapboards on the walls of a house, and they are nailed where they lap so that each board is held firmly to the next and to the rail. Use for these boards not less than one inch in thickness.

If you have a broad expanse that you do not care to have broken by the line of a fence, a sunken fence can be used, which is merely an ordinary fence set in a hollow. This depression, or little valley, should have sides steep enough to shut off a view of the fence, but at the same time not so steep but verdure will grow. It is evident that unless this form is used where there is good natural drainage this valley would become at times a river or possibly a swamp.

The fences spoken of above are simple both in design and in construction, yet it is surprising what pleasing and charming effects result from a careful study of the relation of one member to another; that is to say, their proportion. The spacing of the pickets or boards has also much to do with the final appearance. In general where slender members are used (as pickets) the distance between, or the void, should be somewhat larger than the width of the vertical piece, while in the case of boards, the void, if made less than the board itself, gives a solidity appropriate to this particular type.

When we come to fences of a more decorative character an almost unlimited number of forms are encountered. The first step beyond the common picket and board fence is one where pickets are still used, but the post is treated more elaborately; usually with architectural members; that is, it has a base, shaft and cap. If classical in spirit, the accepted classical moldings are used to form these members. The shaft may have plain sides or panels; the top often terminates in a finial such as a vase, urn, ball or pineapple.

Next the rails are developed by having moldings and the pickets become square balusters, or are even turned on a lathe. The whole fence then becomes purely architectural, and is treated in the same way, both as to design and construction, as any other architectural feature. As this type is formal to the last degree, it is better used in close proximity to the house, or, if in the garden, it should have some relation to the main features, such as casinos, pergolas, retaining walls and the like.

Perhaps we are more interested in those informal types wich combine freedom and formality; such as are found in the Colonial period of our own country. How well these old fences reflect the spirit of the times! The same grace and charm entered into their design as in the design of the doorways, mantel-pieces and furniture. Like all the work of the best period, refinement was the keynote. What delightful results were obtained by combinationus of a comparatively few forms! The illustrations give a much clearer idea of this than the text possibly could, and they also emphasize the old fact that in good design, originality lies not so much in the invention of new forms as in new combinations of old and accepted forms. In other words, arrangement.



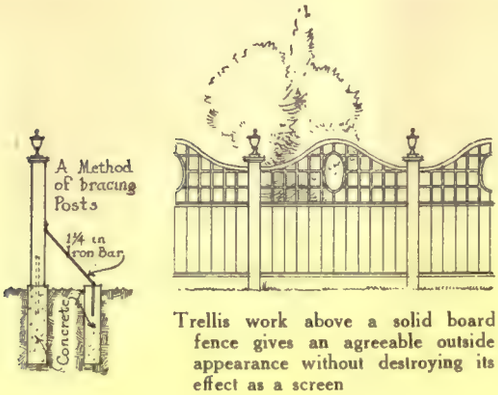
A good example of a wall of faced stones of irregular sizes and shapes, but well laid to harmonize with the style of building



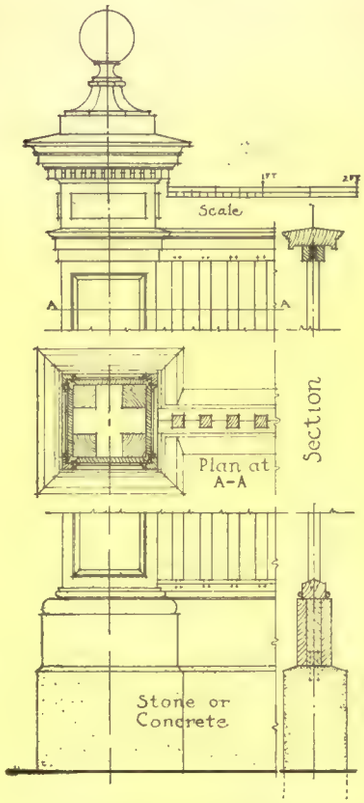
In excellent keeping is this fence of Colonial motif. The square pickets rest on an impregnated wood base and pass through holes in the rails; the double row of short members lends attractiveness to the design



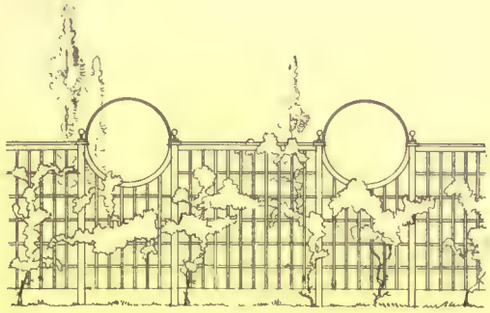
This concrete fence is built in forms and is reinforced with steel uprights. The ornament is also of concrete cast in molds. A slightly roughed surface gives a texture effect



Trellis work above a solid board fence gives an agreeable outside appearance without destroying its effect as a screen



A plan and elevation and section of a post and fence giving all necessary details for its construction



Lattice work fences of this sort, common to England and Germany, are light and form a graceful support for vines

Some of the best modern English and German wood fences are as good as any done before them. Whether acting as fences in the usual form, or as screens, arbors or backgrounds for planting, they are most appropriate for their setting, and never seem out of place or style.

The more complicated the fence is in design, the more complicated it is in construction. This is self-evident. The more parts, the more care necessary in connecting them, and the larger the parts, the more members to be assembled.

When a post becomes over five inches square and has panels and molding it should be built up of different pieces, which should be, if possible, tongued and grooved into one another and have the joints set in white lead. Hardwood splines are an additional security at miters to keep them from opening up. Rails, if over 4 by 4 inches, should also be built up. Clear, white pine is by all odds the best wood for exterior work not in contact with the ground. But it is expensive. Cypress and cedar are used, and in the West, redwood.

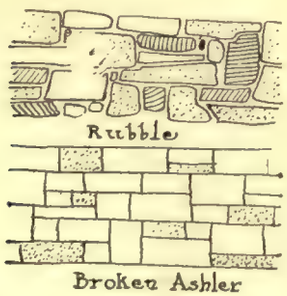
Fences of any height should be well braced. To brace lengthwise is comparatively simple, but to get a brace at right angles to the fence is not usually possible, and it is apt to look ugly and to take up space that interferes with other features. It is, therefore, quite necessary to thoroughly secure the uprights in the ground. Bracing is important near gateways, as at these places a greater strain is borne. The gates themselves should be especially strong, and the construction here is more elaborate, as frequently the gate is the principal feature of the whole. It is the point of interest of the general design. The braces are to be worked in as part of the composition. They should not look like independent members, but should tie in with the general arrangement. Equal size, rectangular parts intersecting may be halved together, although care must be taken not to weaken a structural part. Corner gates are bad, for they put an uneven strain on the fence.

Remember that a gate acts as a lever, and exerts a strain on its support proportionate to its length. In wide gates various devices are resorted to to establish an equilibrium so that all the weight is not borne by the lower hinge or fastening. Braces and balances serve for this purpose. The balanced gate is structurally better than the braced gate, for it can be made to be absolutely counter-balanced and divide the load equally. The weight is generally a box filled with stone, and the member holding it may be a section of a tree trunk, which is pivoted on the top of the post to which the gate is hinged.

If the braced and balanced gates are not appropriate for your fence, ones with concave tops may be substituted, as they act on the same principle as those that are braced.

Gate hinges may be cast or wrought

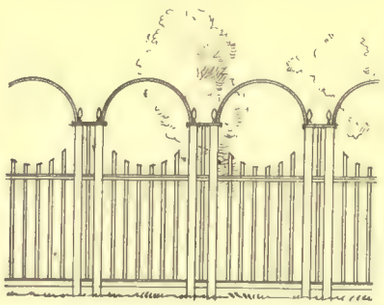
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Two common methods of laying stone walls in lasting and attractive manner

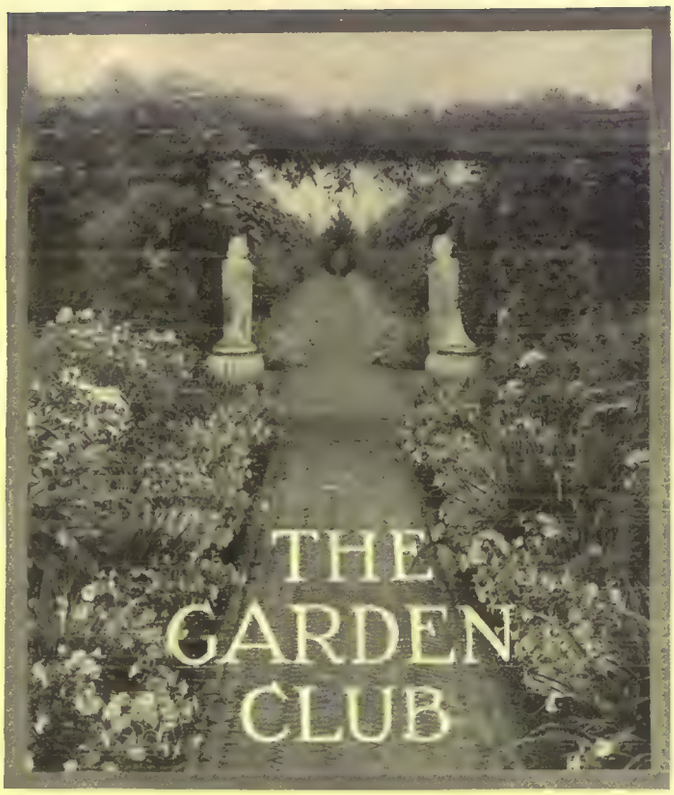


The brick wall fits the formal place. Not only does it lend itself to various combinations of ornament, but the bonding affords many opportunities for surface patterns



Such designs may be constructed of roughly milled timbers and still be exceedingly attractive







EDITOR'S NOTE: *The garden club is a great factor in neighborhood betterment. Here is a true story of the work of a certain such club and its accomplishments taken from the diary of one of its members. What this club actually did should be a stimulus to all who love gardens and a guide to the ways and means of improving our towns and villages. These chapters began in the February issue, when the organization of the Club was discussed. Each installment shows how the program of activities was followed out.*

WELL, my fritillarias were lovely! And they won me a prize, which I received at the meeting yesterday—and which I am very proud of and pleased with. It is a flat gathering basket; and when June brings the roses I expect to use it a great deal, for I have a lot of new rose plants—hybrid teas, too, every one!—and shall have a world of flowers unless all calculations fail. These I ordered and received early—and got at a bargain as a consequence, gaining a full dozen plants on four dozen, half of which Polly Addicks took; so we each have thirty new ones.

We are both going to plant them the first pleasant day this week—and take such care of them as never was, of course—and raise some prize winners! Oh, wonderful spur to laggard effort is this judicious competition business! I am reading all the rose literature that I can lay hands on; and I do not feel *now* that either heat or insects troubling the plants or me can daunt my soaring ambitions when these arrive—the insects and heat I mean, of course. But experience warns me right here that I must be doubly on my guard when I have this exalted feeling.

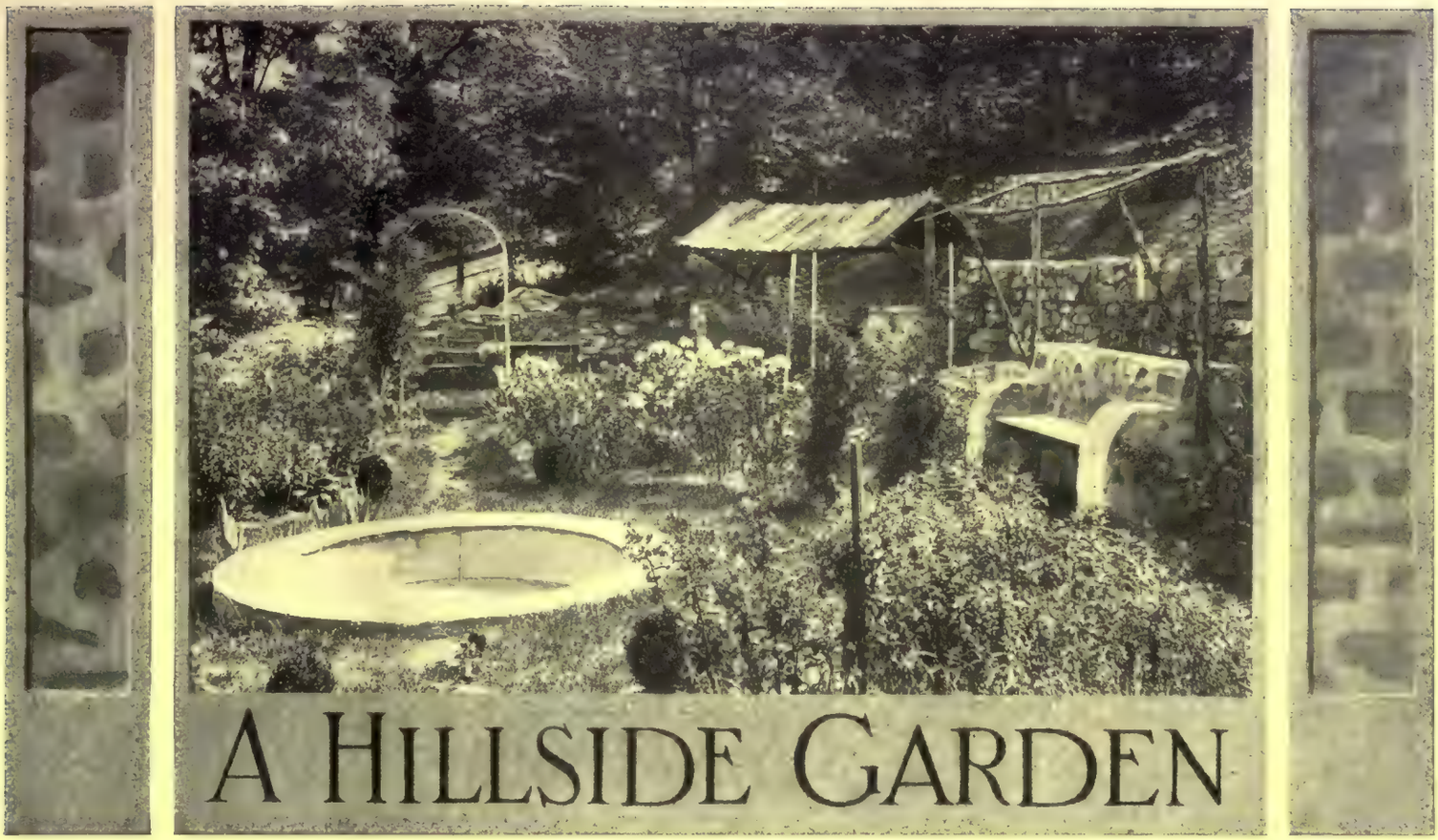
My iris look very promising for show flowers by the twenty-eighth, but of peonies I shall have almost none, for the blight made havoc with these last summer. I am as well off as most of the others in the club, however, for the plants all about here have been fairly mowed down by the "grim reaper." Indeed, it is high time that we as a club took some organized action to overcome this, I think; and we did talk of it to-day a little bit, although we were short because it was a Salton-Appleby afternoon, and she had an artist out from town who came to tell us all about "Color in the Garden"; and he was growing restless at not being noticed, and she was growing restless to call attention to him. So a little thing like community effort to overcome a scourge had to go by the board, of course. Really, some things are trying—more so than others!

Mrs. Addicks made a note of it, however, and told us on the way home that she would look the subject up herself a little, and see what was the best way of getting at it—what had been done, and so on; and she thought we might have some special lecturer about it from the State Experiment Station, perhaps before the summer is over. It is a thing I have always been very keen about since the summer we had cousin Persis' place and worked so hard to save the elms from that terrible leaf beetle, while no one else in the town did a thing—making all our efforts vain, or almost so, as a consequence. And, surely it is a matter for a garden club to take up, if anyone ever is going to take it up—but there's the artist person waiting, so I cannot go into it now!

He was really not a bad sort of person, and not as artistic looking as one would have expected to find at the Salton-Appleby's; and he had some really charming ideas and a funny way of putting things, and quaint twists to him generally that were amusing and refreshing. So it was not such a bad afternoon, all things considered. Indeed, he had us in convulsions at one time, with his word picture of a futurist's garden, drawn in the most serious manner—which Polly Addicks declares was to try us out. She thinks he actually intended carrying it through as a *bona fide* proposition if someone had not begun to titter—and then someone else, and so on. And, to be sure, there is no telling!

He ran to unusual combinations—that is, they were unusual a few years ago—his favorite color scheme being purples and reds, apparently. These are, of course, wonderful together, in the right place—*and* the right shades; but I must say I cannot stand all such combinings that I have met with. And, of course he did not know what plants were any given shade—their names I mean—being a painter artist, instead of a gardener artist, so he could not actually name the things to use for any given combination; but Miss Lucy made up a list of a flower that would represent each color as he showed it on his color chart, as well as she

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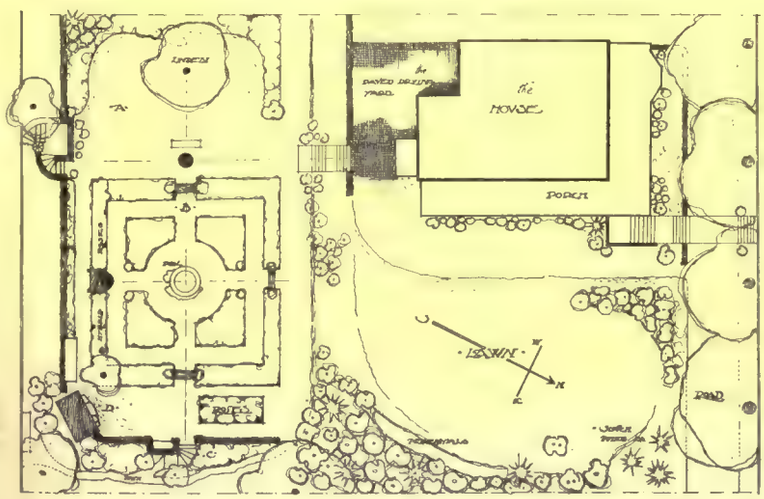


A HILLSIDE GARDEN

THE LANDSCAPE POSSIBILITIES OF A NORTH HILLSIDE—THE SERVICE OF ARCHITECTURAL ORNAMENT AND STONE WORK

BY GEORGE C. D. ROGERS

CERTAINLY there is no site which offers wider opportunity for distinctive garden design than a hillside, and particularly one which slopes steeply. But when this condition is combined with the constricted limitations of a suburban lot, which pitches sharply downwards from south to north, thus giving virtually a northern exposure, it is obvious that besides the free use of terracing and steps, much of the charm of the garden must result from skillful design, and in making the most of such natural conditions as are present.



The level plot below the hillside and above the house was treated simply in a formal manner, using, however, roses and herbaceous perennials. It adds interest to the difference in levels and commands a slope of lawn below it

This problem confronted us definitely in planning a garden for Mrs. Carolyn L. Lynch, at Morristown, New Jersey.

The lot measured only 115 feet frontage, and was nearly 500 feet deep. Some idea of the difference in the various levels it presented may be had from the sectional drawing, which shows a drop of almost 100 feet from hilltop to street level.

Originally, the house had been of no definite style, but by successive and thoughtful alterations, during a period of ten years, it had gradually taken on the comfortable, homey look of many English country houses. The sharply pitched roof, bare of dormers; the casement windows, the plain white paint and dark-green trim, and its long, narrow shape, further suggested English tendencies. I was guided somewhat by this aspect of the house in designing an informal garden.

But, as the section shows, the house was on a much lower level than the rest of the property, albeit it stood above the street some fifteen feet. It was impossible, therefore, without great expense in excavating, to secure a garden next to or adjoining the house. Therefore, we were content to mask the brick superstructure around the base of the porches, with a planting of coniferous evergreens of various hues. Due to the fact that an avenue of big maples lined the roadway directly before the house, very little sun penetrated here, and some broad-leaved evergreens and hardy azaleas were added to lighten the sombre greenery with their spring bloom.

To the east, the fairly gentle slope of the hill was left in grass, and a border of shrubbery and perennials planted along the boundary line in irregular massing. A brick terrace, in double quarry pattern, with inserted medallions of Moravian tiles, was laid down directly behind the house. This space formed the drying yard on washdays, and at other times was useful for outdoor dining and entertainment. A flight of rough stone steps was then constructed from this terrace to the garden level, and a dry



Most hillsides are rocky. Here the native stone was used to great advantage in making a flight of steps climbing up the slope. Tile ornament in combination is very effective

retaining wall was built to hold in the foot of a steep bank.

The material used in the construction work in the garden deserves a word, inasmuch as it was all furnished by the site. The stone was picked up on the hillside back of the house. Broken flagstone was used for paving the steps and seats, which had been taken up from the street sidewalk in previous years. The cedar, larch and chestnut timbers were cut on the hilltop.

Mr. Henry Mercer, of Doylestown, Pa., designed the appropriate tiles which were used, and an Italian master mason who understood garden architecture with rare sympathetic insight built all the masonry.

When the rough terracing was finished we found that a space 60 feet deep and about 115 feet wide must serve for the garden proper. At the rear of this flat level was another steep embankment, the forerunner of the hillside and woodland above. A dry retaining wall, with earth pockets, was put in to hold this slope in place, and, in order to break the long line of walling, a winding stair was contrived opposite the main entrance to the garden level. This had the effect of dividing the plot into two unequal sections, and immediately the main axial lines were fixed. The smaller space, marked (A) on the plan, was left as a stretch of lawn, with an enclosure of perennials and shrubbery surrounding the sundial and stone resting bench.

On the wall of the bastion which hid the curve in the stone stair a decoration in glazed and half glazed tiles was set. While this appears rather bald at present, when the gracious drapery of the trumpet vines which are planted above it have grown a bit its outlines will be much softened. Crevices in the steps and wall have been planted with such alpines as alyssum saxatile, aquilegias, rock cress, phlox divaricata and sublata, and sedums in all varieties. Foxgloves and anemones are naturalized in the wooded spaces higher up.



A little cement, some waste slate slabs and the litter of stone work makes "the wishing chair" that commands a magnificent view of the whole garden

In the larger space (B) a simple, formal arrangement of beds was laid out, and in the centre of this the round pool and fountain were built. A massive stone seat to be canopied with roses now flanks the pool and gives a view of the garden interior, while the occupant is quite secluded.

Back of this seat, and running parallel with the retaining wall, another long vista was created, terminating in a tea house, which was built in an awkward angle of the embankment. The immediate proximity of this garden shelter, since it was a bare, arid spot, was then devoted to a rock garden, and one illustration shows a sunny seat here, and a short flight of stone steps leading from this up to the copse behind, which hides a compost heap behind a rubble masonry enclosure.

Directly in front of the garden house, which is paved with flagstones and furnished with hand-made chairs and a monastic table, is a large rose bed filled with high-bush varieties. The planting of some large shrubs and a few hemlock spruces on the crest of the slope at the edge of the

garden level, behind this rose bed, completely shut in the view of the summer house from the street, though its roof can be seen peeping invitingly above the heavy screen of foliage. It nestles into the hillside comfortably.

With this bare skeleton, as it were, of the garden assembled, the planting was accomplished by midsummer. A bankrupt nursery nearby furnished many full-grown specimens of stock. Therefore, we labored well into July transplanting perennials and shrubs to soften the hard lines of the new garden. In passing, it may be well to say that we did not lose a single plant out of more than 800 which were moved. Incessant watering and attention was the reason.

The pictures show the progress made from May Day till August, when the photographs were taken. The retaining walls were planted in September with Alpine plants and wichuriana roses, and these will produce their abundant bloom this year. The garden is by no means a finished product. Much planting remains to be done on the wooded slope, where the chestnut blight has made ravages. In order to save a fine group of trees from further destruction, we built a stone seat over the decayed roots and stumps of the dead tree.



Where the stairway reaches the garden level by the summer house the rock work will bear Alpine plants in place of the temporary substitute, portulaca

This "wishing chair," as it is called, commands a magnificent view, not only of the whole garden and grounds, but over the Washington Valley and the mountains to the north of Morristown. It proved a favorite resting place for the family at sunset. A slight platform is built beneath it to hold a table, and later a planting of shrubbery will be made at the base line. The seat holds six persons comfortably. Much of its charm rests upon the accidental use of a natural site, and it is certainly more pleasing and durable than one of flimsy, rustic construction.

As it will be observed from the photographs, the garden and its environment follow the precepts of no specific school. Whenever an obstacle was in the way it was overcome in the most simple and direct manner possible. The whole scheme is straightforward, yet has occasional elements of surprise in it which are delightful. No idea of the wealth of detail which is crowded into such a small space can be obtained from the pictures.

Despite prolonged droughts, the perennials bloomed profusely all summer long, and great quantities of roses and chrysanthemums were cut until Christmas. A second crop of the Kelway hybrid delphiniums was secured by cutting the flower stalks back in July.

Birds and children splashed indiscriminately in the pool, which was six feet across and rimmed with cool, blue flagstones. At night the fountain rose and fell softly amidst the aroma of thousands of blossoms. Lured by the garden atmosphere, many breakfasts and suppers were taken under the unpretentious roof of the tea house by the family, and a grove of black locusts on the eastern side gave us a sense of perfect peace and security.



The rustic house over which vines will creep, the simple rose arbor, the pool and sundial are all constructed out of native materials and at a very slight cost

Successful Squab Raising

PRATICAL DIRECTIONS FOR THE SELECTION, CARE AND HOUSING OF BROOD PIGEONS

BY MARY NELMS



Cut tobacco stems make good nesting material, and besides will prevent lice



When the nestlings are in this stage, great care in feeding must be exercised



Healthy squabs should be in condition for the table at the end of four weeks

WITH very little trouble it is entirely possible for anyone with a 4 by 5 back yard and even a Brownie pocketbook to have plenty of delicious, juicy squabs, so plump that they make almost a ball when the legs are drawn well up and the breast so full that the bone shows only as a dark line down the center. It is not necessary to have the extra-large size—the jumbo squab—to obtain this rich flesh. Healthy stock and proper feeding will make thin birds the exception in any size, though, of course, the best are always large, weighing nine and ten pounds to the dozen.

The varieties of pigeons are many, each breed with its own faults and its own virtues, each with its admirers and its scorners. The majestic appearance of the fantail is often marred by the discoloration of the beautiful tail-feathers where they have been dragged on the ground; for his wonderfully graceful gymnastic feats, the tumbler must have his freedom, and then—the neighbors' gardens, to say nothing of your own. Other breeds present various oddities of form and habit. Even when squabs are the main purpose of the pen, opinions differ somewhat as to the best breed, though most people agree that it is mighty hard to beat the straight homer. He is beautiful in appearance, sturdy and very prolific, and, while he may be easily trained for distance flying, he is perfectly healthy and contented when confined. In fact, he works much better with nothing to distract his attention from home duties.

To raise pigeons successfully, whether for pleasure or for table use, two conditions are absolutely essential—healthy stock and sanitary quarters. The idea that "any old box" is good enough for pigeons is a thing of the past. The pigeon cote should receive full consideration as a definite part of the scheme of out-buildings, the architecture harmonizing with its surroundings; the long, covered yards or flies effectively screened with climbing roses, California privet, or other tall-growing shrubbery. It is wiser not to allow vines to climb over the yards proper, as the birds may find something injurious in the foliage or flowers. If it is a question of utilizing a building already erected, a little ingenuity will remove any objectionable appearance, and the interior of the pens can easily be made convenient for cleaning and entirely serviceable for the birds.

For ordinary amateur work with a flock of fifty pairs of pigeons, most satisfactory results will be realized in a building with a floor space of 12 by 16 feet, 5 feet 6 under the eaves, and 9 feet at the peak. The house should be raised a foot or 18 inches above the ground, on posts that can be made rat-proof by bands of tin, and should run as nearly east and west as possible, the southern exposure opening into the flies. Inside of the north wall run an alley 3 feet wide, with a small window in the center for ventilation, and divide the remaining space by a wooden partition into two

(*Continued on page* 409)



With the proper conditions of food and housing, the raising of squabs for the table is both pleasurable and profitable



Quality Crops for the Home

HOW TO CULTIVATE PRIME BEANS—DIRECTIONS FOR PLANTING — THE DESIRABLE VARIETIES

BY D. R. EDSON



THE main trouble with beans is that they grow too easily. If you get tired of them before the summer is half over it is not because you have them too often, but because a row of beans can get ahead of a good-sized family, and as soon as the pods begin to get too old they get tough and the quality falls off, and the family taste for beans goes after it. You know how delicious the first couple of pickings are; juicy and tender and finished up with a moderate amount of butter. Without a very great deal of trouble you can have them as good as that all season through. This doesn't mean, either, that you will have to take the thought and the trouble to make a succession planting every week to do it. It depends, first of all, upon a knowledge of types and varieties, and, secondly, on a proper use of the pole beans in connection with the dwarf sorts.

The first rule to learn in connection with the sorts which it is wished to use only as snap or pod beans is: *Plant only a few at a time.* This is especially true of the small-seeded, early "string," or green-pod, beans, which are not so good in quality as the later sorts, and of little use in the dry state.

All beans prefer a well-drained, rather light, sandy soil, as the seeds rot quickly in cold, wet soil, and, being semi-tropical or heat-loving plants, they like a warm soil. This is especially true of the limas, both dwarf and pole. While beans prefer a soil that is not too rich, and will, in fact, produce a fair crop on soils upon which many other things would starve, nevertheless an adequate amount of plant food—as described further on—should be given.

The first thing, however, is to decide carefully when and what varieties to plant, which, of course, you should do now, before ordering your seed. For the purposes of the home garden, beans may be considered in five quite distinct types, all of which, even in the garden of moderate size, have a place. With care in selecting varieties a supply of fresh, tender pods covering the entire season may be had with two or three plantings. These five types are: the extra-early "string," or green-podded, beans; the "butter," "wax," or yellow-podded, beans; the dwarf limas; the pole beans, and pole limas. If I had space in my garden for only three of these, I would omit the string-beans and the bush limas. The most difficult sort to grow, however, as they require a longer and warmer season and a richer soil, are the pole limas, and in some localities the dwarf limas give more satisfactory results than the pole limas—although for the same yield they naturally require more room.

The string or green-pod sorts are the hardiest, and are therefore to be depended upon for the first two or three pickings, as they mature in a shorter season and can be planted earlier than the wax or pole varieties. Improvement in breeding has eliminated the undesirable "string," and the quality of the pods has been improved, but they are still unequal to the best of the wax sorts, and therefore only enough of them should be planted to supply the table until the first of the wax sorts may be had, which should be within a week to ten days later. The best-known variety of the green-pod sorts is the Extra Early Red Valentine. It has strings, but they are readily removed; the quality is good, and it is still probably more widely used than any other for first early. There are, however, several newer sorts practically as early that are stringless and of better quality. Such are Stringless Green Pod and Bountiful. The former is extremely early, and the latter retains the pods in good eating condition over a long period. Three fine sorts to follow the extra earlies are Longfellow, Keeney's Refugee and Fordhook Favorite, which is a white-seeded, green-pod sort of extra fine quality.

Of the wax beans, one of the best known, and an excellent sort, is Rustproof Golden Wax. It is still widely grown, although new sorts of better quality have since been introduced. Brittle-wax is one of the earliest and best. The old Black Wax is a little earlier, but not so good in quality. Golden Scimitar is a prolific and delicious sort to follow either of these. The New Kidney Wax is the best strain of this popular variety, which is valuable for its disease-resisting qualities. White Wax is a great yielder of excellent quality which has the advantage of having white beans that are good as shelled beans, fresh or dry.

The bush limas are of great value where the seasons are too short or too cold to grow the pole limas. The Improved Henderson is the most satisfactory extra-early bush "lima," but it is distinct in habit and size from the true dwarf limas, of which the Burpee-Improved is the best known and most satisfactory. In this sort both the pods and the beans are of enormous size for the compact, dwarf plants which bear them. New Early Giant I have not yet tried, but, from the description, I should say it to be very similar to the foregoing. The beans of the dwarf "Potato" lima are of good flavor and quite large, but the habit of the plants is not nearly so satisfactory, as they do not conform to the true bush type.

Of the pole beans, Old Homestead (Kentucky Wonder) is probably the most familiar. Burger's Greenpod is very similar, but earlier, and, on the whole, an improvement, especially as the seeds are white. This is a very desirable feature, because this type of bean matures the crop much faster than any family can eat them, ripening up a good surplus for winter use. Of the wax-podded pole sorts, Early Golden Cluster and Sunshine Wax are both excellent sorts to succeed either of the above if planted at the same time. The Worcester Horticultural and Mammoth Carmine podded are two good and decorative sorts, grown where the season is not adapted to pole limas. They are both good for either summer or winter use. Scarlet Runner, which is easily grown almost anywhere, is quite as decorative as most of the flowering annual vines, and the large, flat beans, almost as large as limas, are of good quality for summer or winter use.

Of the few large pole-lima beans, Early Leviathan is undoubtedly the best early sort. Of the new large later sorts, Giant Podded is the best I have tried. It is a wonderful grower; very prolific and earlier than the old popular King of the Garden. Challenger (Dreer's Improved) is the pole Potato lima, and is used very largely for late crops, especially in the more northern States. The quality, however, is not considered by most people as good as that of the regular large limas, and as there is now a perfectly practical method—described later—of starting the few hills of limas required for the home garden in time for the crops

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PLANS OF A HOUSE AT MEADOWDALE

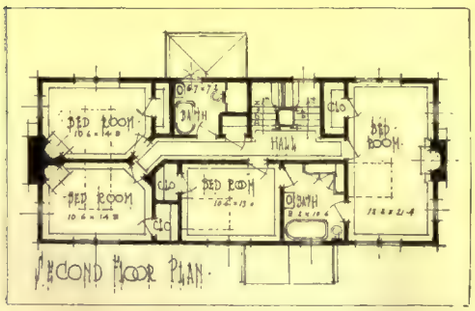
BRONXVILLE N.Y. - - - KENNETH G. HOW ARCHITECT

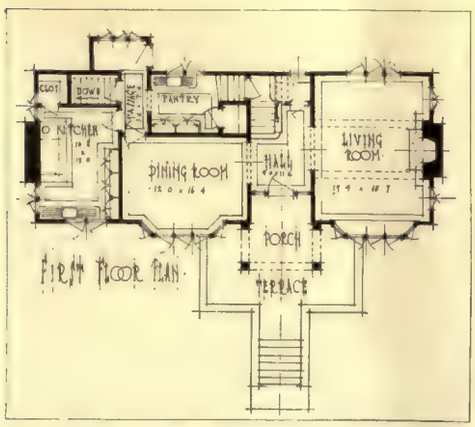


There is a characteristic about this small house that is striven for by many house builders—it really gives the impression of homelikeness. What is more, it is good half-timber work, the woodwork giving the impression of stability and appearing to be structural. Stucco of creamy tint combines well with the browns of the timbers and the roof. The diamond-paned casements add further interest to the whole



It was not the idea of the architect to duplicate an English cottage, but to take the fugitive quality of homelikeness found in the English small houses and endeavor to apply this to an American country home. When vines cover the lattice and creep up the stucco lower story, the place will be still more attractive





The kitchen and pantry are quite distinct; so also are their functions. The arrangement here facilitates the work in each. In the upper floor very little space is lost in hallways



The interior treatment of fire places receives its note from the timbering on the exterior. In this instance a good example may be obtained of the decorative value of bricks laid in pattern



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, a self-addressed stamped envelope should be enclosed. This department will also purchase any of the articles here described for subscribers living at a distance, or will furnish the names of the places where they may be obtained.

Porch Awnings

AWNINGS for the porch so often give more or less trouble. The new canvases are attractive in color and design, but, made in the old style, are heavy to raise and bulky when drawn into their smallest compass.

A Chicago woman who has always complained of the undesirable features of the old porch awnings, this year solved the problem to her own satisfaction by using in her northern Michigan country home the kind much liked for window awnings in city apartment buildings.

The openings of her porch were divided by pillars into window-like spaces, larger or smaller, and the illustration shows how much airier this arrangement is.

The main point is, however, that with a simple touch they go up like a window-shade, making a compact roll at the center of the opening (in the case of the narrower space), while the larger one goes up to the top—iron supports and all.

Curtain Fixtures

AN excellent device that, like many another time and trouble-saving convenience, is small and inexpensive, is a pair of permanent fixtures for curtain rods. They are inserted with little trouble directly into the frame of the window, are practically invisible, and will fit any ordinary metal rod, so that there need be no further cause for disfiguring window frames with nails or screens, even when new rods are to be put up.

The fixtures consist of two little metal cylinders or holders about half an inch in diameter. One is about half an inch long, the other one and a quarter inches, and the longer cylinder is fitted with a spiral spring. Half-inch holes are bored in either side of the window frame in the required places, and the fixtures are driven in with a hammer. In putting up the rods an end is inserted into the longer cylinder first, and the spring admits of its being pushed in far enough to slip into the other fixture on the opposite side, when the rod is released and fits firmly into place. Once put in, a set of the fixtures will last indefinitely, and they can be used for sash curtains as well as for the longer ones.

Ideas for the Kitchen

FOR convenience, comfort and attractiveness of appearance, the kitchen of the average California house is not to be improved upon, and, from the whiteness of its woodwork to the least of its labor-saving devices, it is a thing of real beauty and not just a place given over to household drudgery. Perfect plumbing, with the best of fixtures, electric lights in every necessary place, gas or electric stoves, cooling closets, and drawers and cupboards without number, make it easy for the presiding genius, whether mistress or maid, to accomplish her daily tasks with the least amount of trouble, and there are many features of these kitchens that might well be copied all over the country.



The new awnings are attractive in color and have a simple adjusting apparatus

The cooling closet, which in California takes the place of the refrigerator for a large part of the year, is a small, square cupboard extending from floor to ceiling, fitted with woven-wire shelves and arranged so that there is a constant current of cold air from bottom to top. In the kitchen illustrated there is, in addition to the cooling closet, a refrigerator that is placed in rather an unusual way. A built-in space made especially for it opens both into the kitchen and the back porch, so that ice can not only be put in from the porch at the rear, but by closing the doors in front the refrigerator can be completely shut off from the kitchen. This makes it possible to eliminate the refrigerator from the kitchen entirely, and yet it is in quite the most convenient place, when it comes to the saving of steps.

The excellent scheme of placing the sink in such a position that there is a window directly over it is one that means unlimited comfort in the way of light and air for the household worker, and the size of the draining boards is another noticeable convenience, those in many kitchens being even larger and longer than in the one illustrated. Everything tends to the systematizing and lessening of work in the arrangement of these kitchens, and not the least important feature is the amount of well-planned cupboard space which gives literally a place for everything. In the cupboard illustrated there are special compartments or shelves for everything that one could possibly need in cooking, both in the way of food materials and utensils, and, besides the kneading board that slides in under the open shelf, there are two deep, tin-lined drawers, one for flour, the other for bread or cake, both of which are proof against dampness, and mice as well.

A Simple Guest Room

CHARMING is the harmony of this restful and artistic bed chamber, with its fresh, grey and white striped wall paper and cut-out border of rose-clusters, joined by a blue ribbon. The chintz used for window drapes, bureau and dresser covers, as well as the top of the little stool, in front of the dresser, has the same design as the wall border, on a background of grey and white lattice. The round, soft chair cushions in the wicker chairs are made of the chintz; also the spread and hollow card board bolster, which contains the pillows when not in use.

The rag rug in front of the old mahogany bureau has for predominating colors soft pinks and blues, grey and white. The little oval foot rug beneath the white enamel stool is made of long strips of blue silk, braided over flannel, coiled and sewed by hand.

Over the beautiful built-in dresser of white enamel, with glass knobs, is the unique feature of the room; that of the Japanese stencil window. The sashes were cut to fit the stencils, which can be purchased at almost any Oriental store. They are sixteen inches one way and thirteen and twenty-one the other; of mahogany colored, fibrous material exactly the same tone as the furniture. The intricate details of flower, vines and butterflies are joined by hair-like filaments. The Japanese use these stencils to stamp the patterns on kimona crêpe, and they can be purchased at a moderate price, the cost varying according to the amount of work in the design. With the sunlight coming through them they are really beautiful.

There is such a great variety of these stencils, and the choice in color and design is so wide that the prospective house furnisher should experience no difficulty in finding something to harmonize with whatever decorative scheme she proposes to carry out.



In this simply furnished guest room a charming effect is produced by the built-in dresser, the chintz coverings and the Japanese stencil window



The cooling closet is located in a compartment in the kitchen and opens also on to the porch outside for the convenience of the ice man



The excellent scheme of placing the sink under a window adds greatly to the comfort of household workers and the size of the draining-boards is a real convenience

Wiring the Old House

PROVIDED good workmen, the wiring of an old house for electricity is a simple task—not a dirt-making and dangerous one. The word simple is used to indicate the absence of fuss and general tearing up; the task itself is not so simple, because it requires trained workmen to do it well. But as for demolishing the walls, tearing up polished floors and generally disturbing the comfort of the house—perish the thought! The electrical worker is the cleanest of the mechanics; he usually carries with him a canvas bag to catch all ceiling dirt, and he covers the floor with canvas to protect it wherever necessary. It is unfair to class him with the decorator with his sour paste and turpentine and scraps of paper; the carpenter with his lumber and litter and noise; the mason with his plaster and grit and dust; or the plumber with his grease and grimy tools. The electrician's tools and material are dirtless and free from odor, and he proceeds with his work in a simple and ingenious way that interests everyone.

The reason more old houses are not wired for electricity seems to be that there is an idea abroad that it requires the tearing a house to pieces to install the wires, and few people desire to supplant lamps or gas at the cost of ripping up perfectly good floors and chopping away wall plaster, etc. The electrician of to-day does not destroy—he builds. With the help of a clever tool called a "snake" he threads the wires in their flexible covering in and out in open spaces between beams in the walls and under floors. He does not rip up the middle of a bedroom floor nor chop holes in the baseboard to "find" his wires; he fishes cleverly with his "snake," and when it is necessary to open a floor anywhere, it is done in a closet where traces will not show.



Garden Suggestions and Queries



CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening* and *Gardening Indoors and Under Glass*

Getting the Flower Beds Ready

IT is a common practice to rake a little here, or dig up a few spadefuls there, according as there are a few seeds to be put in, or a few plants to be set out. This makeshift method of working the ground over will not give satisfactory results. Also, in the end it makes much more work, as any little-at-a-time policy usually does. So, just as soon as your earliest vegetables are planted and set out, turn your attention in earnest to the flower-beds and borders, and make a quick, thorough job of them. Give them, first of all, a good dressing of manure. That which has been used for a winter mulch or removed from a spent hot-bed will be just the thing. If no yard manure is to be had, get a bag or two of sheep manure or commercial cattle or horse or cattle manure, which is dry, pulverized, convenient to handle and can be had quickly by freight if your local grain or fertilizer man does not handle it. These things are to be preferred to fertilizer alone, as they add some *humus* to the soil. Decayed leaves, leaf-mold, or any similar organic compost, used in connection with bone meal (or bone meal, tankage and potash) will give good results. Spade the beds up as deep as possible without turning up the subsoil, and rake them down fine and smooth, whether you are ready to plant everything yet or not. If you can get the first crop of weeds started and raked out before planting, so much the better. And the smoothly raked, dry surface will help keep the spring rains that have soaked down into the soil from evaporating away again. For another thing, be careful to clear the beds of *tree-roots,* as these marauders like to get into the mellow, well-prepared beds and thieve the plant-food placed there for the flowers. If the beds or borders are near trees, cut down deep around the edges with an "edger."

When you are buying plants at the florists, do not wait until the last thing, just a few days before Decoration Day, when everyone about the place is rushed to the utmost, but go as early as you can, while stocks of the various plants are still full, and you can take time to look things over and pick out just what you want. Most people insist on having the largest plants they can find, and only those in full bloom. A small or medium-sized plant, well budded, that looks thrifty, will often give much better results.

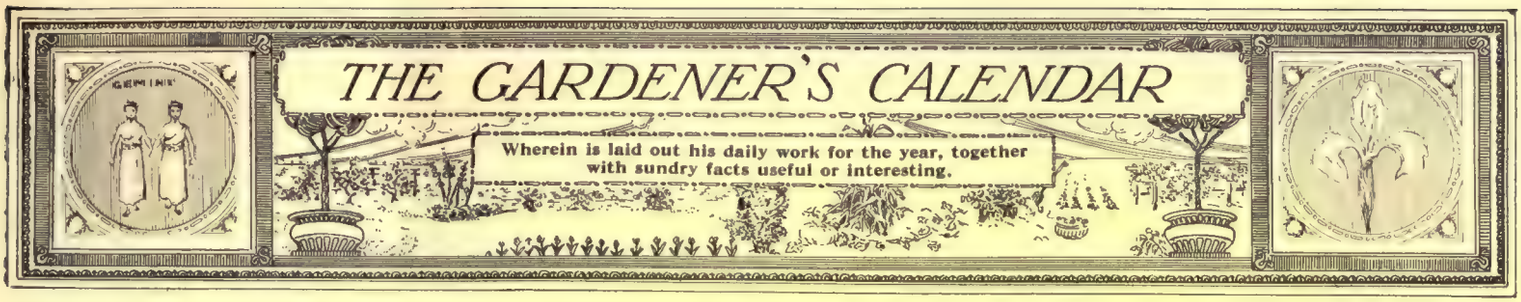
Looking After the Lawn

Nothing more quickly detracts from the appearance of the place than a scraggly, poorly kept lawn. If yours is not all it should be, spring is the time to repair it. The usual method is to go down to the hardware store, buy a package of gilt-edge, blue-ribbon, gold-medal, high-priced lawn grass seed, in a highly lithographed carton, come home, scatter it over the lawn and then wonder why nothing happens. But if you want to improve the lawn the task is a little bigger one. First, order your grass-seed from the most reliable seedsman you know; most of them make two mixtures, one for *shady* lawns. Then, while you are waiting for that to arrive, get out onto the lawn with spade, wheel-barrow and iron rake. Dig up all large weeds, dandelions, etc., and fill in any holes that may be left, and all hollows or sags in the lawn, with clean, fresh loam. (If the lawn is large and very uneven this will probably require several cart-loads of loam.) Beat this down firmly with the back of the spade. Try the same method on any humps or mounds that may be visible. Then, after a good, soaking rain, or a thorough watering, if the rain is not forthcoming, give a heavy dressing of bone dust or sheep manure; go over the whole lawn vigorously with the iron rake, loosening up the soil as much as possible without actually rooting the grass out, and roughening up the surface of the patches of loam, and sow the seed, going over the plot twice, the second time at right angles to the first. Then go over the whole with a roller or pat down the barest patches with the back of the spade. Keep chickens, dogs and children off. A very light mulch of fine, dry manure, or of grass clippings, will be beneficial if available. Water occasionally, in the evening until the seed is well started. Thereafter a sharp lookout should be kept for inroads by weeds, particularly dandelions.

Weeding and Weeders

One of the best weed-killing implements in the garden is the iron rake; yet ordinarily, after the seed-bed is prepared, it hangs on a nail until the next planting job requires its use. Within ten days after planting go over all the ground between rows of lettuce, cabbage, etc. If you are careful you can rake lightly *across* the rows of onions, beets, etc., breaking up the soil crust and destroying thousands of sprouting weeds without injuring the legitimate crops in the slightest. When the seeds are up, the little plants two inches or so high, *even if there is not a weed visible,* go carefully over the rows with the double wheel-hoe, set to shave just as close to the plants as possible. The *disk* attachment can be so set that it shaves dirt away from the plant. Some types of wheel-hoes can be fitted with plant guards that make very close work possible. If the garden is very clean this first hoeing may be all that is necessary for another week or so. But if the rows are all weedy, get after them at once, for no garden fact is surer than that the sooner you go over the rowed stuff the first time the less work it will be. There are several types of hand weeder, any of which, when one gets the knack of using it, will lessen the drudgery of hand weeding. For myself, I prefer the kind that is known as "Lang's," with a sharp, bent blade and a strap fitting over the middle fingers, which can be had of most seed houses at a small price. After this weeding, and the necessary tramping and compacting of the soil, it is a good plan to go over the rows with the rake or hoe attachments on, and loosen up the soil for an inch or two to restore the mulch of fine soil, which should always be preserved. And above all, in hand weeding, two things should be carefully observed: *Break up every inch of surface,* whether a weed is visible or not; it is just as important to "get" the sprouted seedlings that have not yet appeared above ground as those that have. *Pull out every weed by the roots;* a broken-off weed left to sprout again will be much worse than if it had not been touched.

(*Continued on page* 420)



Fifth month
Morning star—Jupiter

May, 1914

Thirty-one days
Evening stars—Venus



Sunday

31. ☾ Johnstown Flood 1889.
Spray with ice-cold water anything that you suspect is frost-touched; spray with cold water also as a frost preventive before covering at night if frost threatens.

3. ☽ First Quar. 1h. 29m. A. M.
Tender vegetables are beans, corn, cucumbers, eggplant, all melons and squash, okra, peppers, pumpkins, sweet potatoes and tomatoes; these cannot bear frost.

10. ☺ Mother's Day.
Look about for insects of familiar and unfamiliar kinds; this is the month they emerge from egg and cocoon, and vigilance now is garden insurance.

17. ☾ Look about constantly for more tent caterpillars' nests; they will build and rebuild, and you must keep watch for them right along.

24. ☽ New Moon 9h. 35m. P. M.
Look over currants and gooseberries for signs of the currant worms; arsenate of lead, 1 oz to the gallon, is the spray to use when they appear.

Monday

4. ☽ If anything is touched by frost, cover from the sun and let thaw out gradually. Spray elms for leaf beetle now or as soon as leaves are opened, using arsenate of lead.

11. ☺ Weed everything early and often; keep ahead on this or you are lost! Plant lice are omnipresent; spray with tobacco extract or soapsuds whenever even a few are found anywhere.

18. ☾ If any are found, drag them out with a swab of cloth on the end of a pole, by twisting this into them and pulling them gradually off the branches; do not burn them on the trees now.

25. ☽ Water roses with liquid manure. Watch the young fruits that are forming; at first signs of insects entering them, spray with arsenate of lead, 1 lb. to 12 gals. water.

Tuesday

5 ☽ Napoleon died 1821.
Spray fruit trees also as soon as leaves open, using arsenate in proportion of 1 lb. to 12 gal. water always, unless directions specify differently.

12. ☺ Jupiter, evening star.
Frogs will be "jingling" soon; three times must they thaw out and freeze up before spring is actually assured, is the old superstition.

19. ☾ Provide a toad shelter at the edge of the garden—a trench, roofed with a strong plank laid on stones at the ends to keep it up so they may crawl under; then provide the toads if you have none.

26. ☽ Dig dandelions out of the lawns, using them for greens, and sprinkle grass seed over the spots left bare. Keep after weeds in garden, and do not neglect tillage.

Wednesday

6. ☽ Spray evergreens that are troubled with bag worm with arsenate half this strength; combine arsenate with Bordeaux in place of water for use against fungi on fruits.

13. ☺ English settlement of Jamestown, 1607.
Rub all buds that are not wanted from grapevines and fruits and from shrubs and trees generally.

20. ☾ Cuba became a republic 1902.
Spray roses with tobacco extract or whale-oil soap and with Bordeaux to keep away fungus.

27. ☽ First telegraph in America 1844.
Plant second crops of everything planted on the 7th and 8th; annuals, vegetables, etc.

Thursday

7. ☽ Sow seeds as desired; transplant from frames some cabbage, lettuce, cauliflower, greens, tomatoes, etc.; set out roses, pruning back to three buds; plant Dahlias and Tritomas.

14. ☺ Bees should be watched now for swarming and supers be in readiness; weak colonies may need feeding for awhile. If you are to start a hive, wait till the end of the month to get it.

21. ☾ Ascension Day.
Attend to weeding everything to-day, and the gentle tillage that conserves the moisture deep in the earth; this induces deep root growth.

28. ☽ Finish all planting and transplanting of trees, etc., and shifting of perennials and general clean-up work.

Friday

1. ☽ May Day—dedicated to Robin Hood.
Sow seeds as desired, also potatoes, unless ground is wet and cold; wait a week if it is.

8. ☽ Plant and transplant generally; divide and shift perennials; sow seeds of anything remaining to be sown.

15. ☺ Thin out everything that is well under way; provide bird houses and shelters and water pool or basin. Watch and watch for insects, and be prepared to spray at an instant's notice.

22. ☾ Two days after the petals of fruit trees fall—and not before—spray with arsenate-Bordeaux solution, 1 lb. of the first to 16 gals. of the last. This is for codling moth and curculio and fungi.

29. ☽ This day is also favorable to sowing and planting, if any has had to be neglected because of weather or other hindrances. Only late flowering perennials may be moved now without loss of blooms.

Saturday

2. ☽ Arbor Day in New York State.
Sudden sharp frosts may descend this month unexpectedly; be prepared to protect all young plants with newspaper when conditions favor frost.

9. ☺ Full Moon 4h. 31m. P. M.
Soak sand with kerosene, a pailful to a cupful, and spread this around the base of plants to prevent root maggots.

16. ☾ Last Quar. 5h. 12m. P. M.
Begin systematic garden tillage and care, and thus make all your work easier throughout the year and the garden products better.

23. ☾ Captain Kidd hanged 1701.
Dust young cabbage plants at night with pyrethrum powder mixed with flour—1 lb. to 5 lbs.—to discourage the butterflies that lay their eggs then.

30. ☽ Decoration Day.
Spray young potato plants with the arsenate-Bordeaux combination when they are 6 inches high for blight and potato bugs.

"When daisies pied, and violets blue, And lady-smocks all silver-white,
And cuckoo-buds of yellow hue, Do paint the meadows with delight."—*Shakespeare.*

"New moon on her back, for rain you'll not lack."

EDITORIAL

FACT VERSUS LEGEND

THE old story of the waking world is just being enacted hereabouts. The infant—for this is the real birthday of the year—shows the approved points and markings which indicate that it will develop just as every other young year has done for ages and ages. The same remarks of youth and love, the same reversion to verse, the same sanguine prophecy of fashions—the very catalogue is wearisome—is repeated just as it has always been. Why are we not bored with Spring? Why doesn't the nativity of the year lose interest through constant reiteration? Mrs. O'Flaherty's first few children were events; the eleventh was merely an occasion. But, though there has been a constant succession of young and weeping Aprils, their arrival is no whit less wonderful than the first. Familiarity may breed contempt of everything but Springs.

But for all the great army of poets and painters, of philosophers grave and gay, of scientists, authors, cartoonists and preachers, are you familiar enough with Spring?

The poor inhabitant of cities knows when it has come—the newspapers tell him, the shops advertise it, his children learn about it at school, for the Board of Education recommends a certain program to take fitting recognition of Nature's awakening. Those who have not entirely lost their natural sensibilities, through the killing results of urban life, recognize Spring in the musty-pungent odor of the rain on dusty asphalt—sad evidence that elsewhere buds are bursting and the subtle perfume of lush meadows and early blossoms sets the heart thumping.

In the country, April and May are seen and felt. The most phlegmatic sense their arrival. There are Spring operations in garden and grounds to make it apparent. Even the most cynical and pessimistic commuter hails it with relief, for it means the long slumber of that importunate arch-fiend, the furnace.

City or country alike, however:

> "The world is too much with us; late and soon
> Getting and spending, we lay waste our powers;
> Little we see in Nature that is ours."

Beyond the superficial marks of May we do not dig deep into the romance of Spring life. And it is the early part of the year that gives us our golden chance to grow familiar with Nature. It is not that the phenomena of April or May are more wonderful or more interesting than those of the rest of the year, but they are more distinct. The slowly moving progress of birth affords moments of contemplation then; the intervals between the running pictures of Nature's panorama afford opportunity to pause and learn. Later the gathered momentum, the multitudinous growth, confuses the novice who is beginning to use his eyes.

In every corner of your garden in the Spring you may find a miniature drama of love and life. You can watch it now. If you look close you may see beneath the ugly exterior of some hitherto despised creature a fascinating interest. The stories of old-fashioned times are not more charming for their fantastic distortion from actuality. Knowledge and education may transform the appeal; they do not destroy it. No, indeed, the more one knows about the things in Nature the more there is to attract one. And the strange part about the study is that the legendary, the mythical reports of wonders, so often have a modern parallel just as wonderful. Instance the toad; Mr. Ditmars' story is just as interesting as the old tale making the creature ugly and venomous, but with a precious jewel in his head. Mr. Ditmars finds the jewel, too, and probably it is of even greater price than the legendary gem; it is the ceaseless industry in waging war on a host of insect enemies of plants and men.

What is more wonderful than the life history of the toad? Within the short span of its life it goes through an evolution that is the sum of the progress of eons. The toads and frogs are so common that they go unnoticed, yet here they are in to-day's development just as they were in the dim morning of the world. We look with amazement at the giraffe; the frog is infinitely more remarkable.

This is the time of the year when you may become familiar with the fascinating lives about you. Everything is just coming into being, and as life slowly wakes and stretches you can learn about it—a moment or so later it will move so rapidly that it requires the keenness of much experience to trace it.

We should never be afraid to know more about the creature world; Mother Nature conceals no skeletons in her closet. One's knowledge does not rub the bloom of romance from mythical stories that hover about the wild things, plant or creature. It is strange to find out how nearly the old legends come to the truth—and the new and exact version is more romantic than the old. At any rate, it is not the age to cling to old wives' tales and superstitions, especially if you are educating others. We, therefore, remind you that it is Spring, and let Mr. Wordsworth tell you in four lines what we have taken many to say:

> "One impulse from a vernal wood
> May teach you more of man,
> Of moral evil and of good,
> Than all the sages can."

YOUR FRIEND, THE DOG

ONE of the delights of living in the country is that you can keep a dog. If one lives in the city he might just as well keep a domesticated elephant as a real dog. The results are as unpleasant for the animal as his keeper. But in the country a dog can lead at least the semblance of a natural, healthy existence.

It is true that there are many country residents who claim that dogs are infernal nuisances; that the destructive ability of a band of painted Sioux on the warpath is as nothing compared with that of even a small dog. But the trouble is not with the animal; his master is equally at fault. The dog that roams through the house at will; that kills chickens, steals from the pantry, roots up the beds of choicest plants, paws over guests and barks and begs in the dining-room is a real pest. Spoiled children are almost as bad; both exist because of lack of training.

Mr. Lemmon, in an interesting little book called "Training the Dog," points this out. He gives the correction also. A little conscientious attention, a little firmness and patience given early, and the dog is a creature many times worth having and loving.

Those who are familiar with Maeterlinck's delightful little essay, "Our Friend the Dog," will realize the unnatural circumstances, the conflicting instincts of the house dog. He requires training; given it he becomes a loving, faithful, true companion.

A dog is man's true confidant and indefatigable ally. He has enthusiasm for every mood; is ready to share all ill luck and good; to endure all hardships; to watch and protect his master. All literature is full of the praise of dogs, but the live dog is a thousand times more desirable than the ideal animal in the best book ever written. If you can afford a place for him, have him by all means, but do not apply your own failings to your pet; do not spoil him and then condemn him for your own inconsistencies. His behavior is a reflection on you, his master.



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Up the Hill to Our House

(*Continued from page 367*)

that, Madam, it is merely an old mahogany chair." "Oh, is that all?" I murmured. He drew it out, and I saw an old Colonial mahogany chair. I dusted it, and sat down. "It is comfortable to sit in," I remarked. "This might do." He mentioned an insignificant sum. "Now, here is something that is really very pretty," he continued. I followed him to the rear of the store. In his hand he held up a most exquisite little Swiss chair, covered with the most fascinating carving. It was fitted together with wooden pegs. I could hardly let it go out of my sight, and I had to master a foolish desire to take it apart and carry it home under my arm. Its price was surprisingly low. "Let me see these rugs, please." He lifted up the corner of a rug. "This is a beautiful rug, a very beautiful rug, but it might be too large," he remarked. "It is 12 by 15 feet." My heart gave a bound. It would be perfect for our living room, and difficult to find at any price in the right size and coloring. It was an Oriental rug, with soft, woody brown for the background, and the pattern having in it a rich, red brown with conventional designs of royal blue. I had him hold it for me, and telephoned David to come at lunch time to look at it. We spread it on the sidewalk before the store to see the coloring in a strong light, and, after a little bargaining, I bought it for less than the price of an ordinary domestic rug. Some weeks later, when I returned to this same store, I found a set of wedgwood plates of shimmering white and fine gold tracery, and also an excellent small hall chair of dark walnut wood. Another place where we found a treasure was in an attic where old furniture could be mended. A relative mentioned a certain antique store which was going out of business. I thought I might find some left-overs, so followed them to their humble quarters in an attic. There were only a few pieces left, but among them was a carved black oak chair 8 feet high and 2½ feet broad, having a cupboard on the top. I sat down on it and settled myself till its purchase should be accomplished. When the price was mentioned, David said we could not possibly pay it. The man refused to alter his figure. David said we must go. "I'm tired," I complained, "and must rest for a while." David, being a busy man, gave me a look, to which I paid no heed. Naturally our argument about the chair continued. The man was also getting anxious to superintend the hammering which went on in his workroom, so his price lowered a trifle, and David came up a bit, but then they were again at a deadlock. "Let's split the difference," I suggested. "No, indeed," came from both sides. David looked at his watch. The man

looked through the door. "I am not going to move till this is settled." "It is settled," they answered, sullenly. I realized by their looks that I was a very unpopular woman. "I have it," I cried; "You pay the boxing, carting and express charges, and that will square it." "Agreed," came the chorus. David wrote the check, and we left in gay spirits.

The Garden Club

(*Continued from page* 380)

could in the brief time, and this list further elaborated by adding more than just the one kind of flower, we are going to work by this summer, and test his theories. For, of course, we all made a note of his combinations and his generalities about color, even though we disagreed with him in spots.

I was interested to see that he adhered to the old theories about the effect of colors on people, and that he believed these effects "took" out of doors, as well as within the confines of a room. Right here he had a little to say about the artist's greater susceptibility and general high-stringiness making him a readier victim of such influences—possibly; but, barring this one lapse, he acquitted himself without undue reference to temperament as it is worn by the great—or the near-great.

Red and yellow—in the clear tones—are the near-to-us colors, red being more especially physical, yellow mental. Blue is the far-from-us color, corresponding to the spiritual; and on this basis he worked out his red-purple combination, making the esthetic claim for it that it was the truest expression of our humanity—physical (red) with an admixture of spiritual (blue), producing purple in different degree according as the spiritual had overcome the physical. He made no allowance anywhere seemingly for the mental-yellow; but, as Helen Brinkerly pointed out, we should not judge him harshly for this, for possibly his opportunities have been limited. "He seems to be a protege of the Salton-Appleby's, you see," said she, sweetly and innocently. Whereupon, Polly retorted not inappropriately, I think: "Meouw!"

The philosophical side of his theory of using colors hardly seemed so important to some of us as it did to others—or to him, I fear; but the calculated use of them to produce effects of distance or of "near-byness," of fairylike delicacy or of sumptuous richness, I have always felt had possibilities that none takes full advantage of; and I do not believe that many people realize that there are such possibilities at all waiting to be developed by thought and consideration and calculation—and illumination in the inner mind.

Purple, for instance, is the color of shadows and distance (this is part of what he said); and this recedes into blue,



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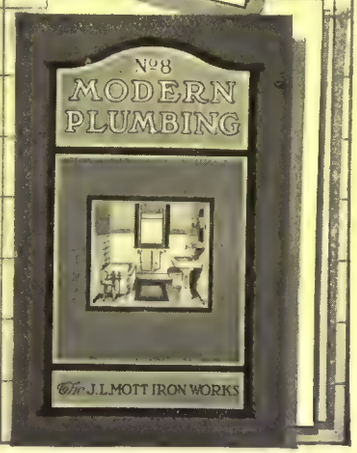
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and this into fainter blue as distance grows greater. Create a sense of distance, therefore, if you will—or of spaciousness, we would call it, in a garden, I think—by arranging flowers according to this color principle. Purple flowers near by, flowers less purple and more blue after these, deep blue following these, and fainter blue finally at the "vanishing point." Really one could make a lovely garden all of blues and purples—and have flowers all summer long, too. Squills, iris, monkshood, larkspur, New England asters, lavender, bugle, Columbine, bell-flowers, flax, Stokesia, Veronica, trilliums—what not, indeed? Miss Lucy's list of just blues and lavenders has nearly fifty plants in it!

Scarlet and gold shades, he told us, by this same token warm up and close up a cold and dreary prospect, and fill a garden with a sense of life and cheer; all the pinks bring joy and radiance, which last I always knew—at least I know they have always brought joy and radiance to me, and it is impossible not to judge others somewhat by oneself. White he had little to say about, regarding it more as a negative than a positive, it would seem—as, of course, it is. And when one stops to think of it, there really seems very little sense in the idea that white flowers are color peacemakers, as so many claim for them—for they never tone down the faults or the assertiveness of anything next door, as a true peacemaker must. Rather they serve by their chaste elegance to emphasize faults and to intensify assertiveness just by the force of contrast. And Miss Lucy showed me long since that the placing of white flowers was as much of an art as the grouping of colored ones.

She was as interested in all that Mrs. Salton-Appleby's artist said as the veriest novice, and took notes industriously to his evident delight, which made me wish he could see the waves of color that sweep through her garden during the summer. To give him his due, however, I must acknowledge that he seemed to have hit upon the wave idea, except that Miss Lucy works from the deep, rich color up to a climax of brilliancy that lightens and foams over into white usually; while he got no farther than a gradation of tones similar to the purple-blue scheme described for distance. Of course, she does not always dash color up to the point where it simply has to break into white, for there are lovely great masses here and there all over her garden where just one color feasts the eye. But there are one or two times during the season's procession when such a breathless flood mounts up and tumbles over; and when I spoke of it to her once, and asked her how it happened that anything so wonderful could be, she smiled her little quiet, sweet smile, and shook her head and said, "It didn't happen, my dear—at least, not altogether."

It took a world of patience and planning to work it out, I know—of matching up colors and grading them by grading and changing plants. But it is worth it all, once the effect is arrived at. Deep, deep red mounting higher to the brightest, purest color, and this in turn passing up through barely perceptible gradations until pink of the most brilliant quality is reached, this at last giving way to blush, and this at last to white—ah! Let me attest a gasp of delight worth working for. And here is white in the only way it can be introduced as anything but a negative, I am sure.

Just for the color harmony of them, regardless of space and general garden effect, pale blue and pale yellow may enter into combination, said the artist; and flowers of deep blue and strong, deep yellow; and flowers of deep yellow and strong purple; and flowers of pink and lavender; and flowers of white and gold. *Aconitum Fischeri* (monkhood) and *Hemerocallis flava* (day-lily) will furnish the first; *Anchusa Italica,* Dropmore variety (bugloss), and *Hypericum Moserianum* (St. John's wort) the second; *Coreopsis lanceolata* and *Delphinium atropurpureum* (larkspur) the third; *Anemone japonica,* Queen Charlotte and *Delphinium belladonna* the fourth; phlox in white varieties, and day lilies in variety, the fifth; and, of course, many other things too numerous to be set down here. These things I am trying planting them now, to see which I shall like the best, and so to work out a something for next year. But I shall never desert my own old standby of pink and lavender—*Campanula medium* in its pink variety, and *Delphinium belladonna*—a combination which, when in bloom in masses together, makes me tingle all over with the ecstasy of their beauty!

(*To be Continued*)

Cloverly and "The House Next Door"

(*Continued from page* 373)

dining room of "The House Next Door." Sitting on little rush bottom chairs around the old table set with dainty luster dishes and choice glass one receives more refreshment than comes from food. On the dining-room table throughout the season were the flowers of the borage in a pretty gray jar. The Craftsman had read in the flower catalogues that the bees love borage, and so its seeds were planted, but the bees were not the only ones to enjoy the pretty star-shaped blossoms in blue and pink.

Even when we step into the kitchen we find that the distribution of antiques has



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We save by mammoth output, by efficiency and by modest profits. Our profit last year averaged 6½ per cent. It is thus we give you tires like these at present Goodyear prices.

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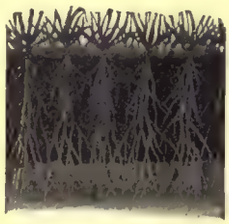
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PEONIES
TULIPS
HYACINTHS
NARCISSUS
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IRIS

not been neglected here. There are the attractive but efficient copper vessels of the olden time hung in evidence.

Up-stairs in the sleeping rooms things are equally interesting. There are four of these rooms. In the large front one over the living-room are windows south and east with the deep casements like those in the room below. Here the paper has a white ground, on which are great bunches of deep red roses, with their green leaves and buds. Dainty, white curtains hang at the windows; rare, old portraits welcome you from the walls, and high-back rockers invite you to rest and relaxation. The writing table in this room is a small rosewood melodion that still has perfect keys and perfect bellows. A sewing table of mahogany stands between the two east windows, and across the room is an old mahogany dresser. On this dresser, when I first saw it, in an antique china and gold vase were branches of pink and cherry-colored hollyhock blossoms. Nothing could have blended more perfectly with the coloring of this room than these flowers.

On some of the beds are hand-woven coverlets in blue and white, and pieced bed quilts in wonderful designs. Samplers, worked in a variety of ways, hang on the walls. One of them tells us that—

"When we devote ourselves to God
'Tis pleasing in His eyes;
A flower that's offer'd in the bud
Is no vain sacrifice.

Wrought by
Caroline Carpenter,
Age 10 years."

When Cloverly gives an evening party, the Craftsman always takes down a fascinating lantern of brass and glass from its hook in the hall ceiling to light the guests from "The House Next Door," to the party across "the green." They never have far to go, and, as they trudge along through the tall grass, following the twinkling light, one is always reminded of the little Cranford lantern procession.

The Craftsman chooses to use in his house only the light of olden days, in spite of discouraging remarks made by some of the neighbors, who insist that one good, up-to-date lamp would give much better light than all of "those little, good-for-nothing firefly candles." The house is especially attractive in the evening when thirty-five brass candlesticks shine and reflect the light of as many candles. Half way up the stairs on the broad window ledge stand four of these candles that are lighted every evening. Their light sends out a bright greeting to the neighborhood, and when bedtime comes and the guests take the candles, one by one, to their rooms, Cloverly knows that for "The House Next Door" the day is over.



Garden Theatres; Their Possibilities, Requirements and Construction

(*Continued from page 376*)

mass is very dense. A garden that is walled or hedged is often a delightful beginning; and garden houses and pergolas, as we find them here so often, detached from the dwelling, can serve no better purpose than as the nucleus of such an outdoor temple to the gods of tragedy and comedy. Similarly a glade within a wood is rich in possibilities, and woods themselves and wild hillsides, and, indeed, almost any conceivable place may be turned to account simply by defining the theatre's limitations and providing entrance way for guests or spectators, and screened space for performers. All of this it is quite possible to do, too, without destroying in the least degree the wild character of woodland—for where undergrowth is thick it means simply clearing the necessary spaces and leaving all the rest, while open woods will require simply the introduction of defining masses of such "undergrowth."

One rule that should be observed very carefully is this: adopt a style and carry it out consistently throughout the work. This does not mean rigid adherence to either Italian formality or landscape informality altogether, for it is possible to be informally formal and likewise somewhat formally informal in a garden. But it does mean careful adjustment of every phase to every other phase so that harmony will result. For example, exits and entrances that are "natural" must be provided on the natural type of stage, whether it is a lawn corner or wild hillside or glade. There must be nine of the first, second and third right-and-left-exit business, which the Italian outdoor stage shares with its indoor prototype—although actually the same number of exits on either side of the stage may perfectly well be compassed. The difference will be that these exits will not be ranged beside the open center whereon the performance takes place, but will recede into the depths of the encircling planting, some to a greater distance than others; some ascending, perhaps, while others vanish over a hill. In other words, the actors will simply take their way off into the woods, which will hide them sooner or later from view.

This brings us to the subject of lighting the stage for night performances. For the natural type of stage setting nothing can surpass the calcium light thrown full upon the stage center, and picking out the forest depths within its radius with wonderful beauty until these vanish into the darkness beyond in a perspective which the professional stage producer would forswear his soul to accomplish. Unless such light is supplemented by another back of the performers, however—or above them—shed down

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Herr Haberland, Deputy, in the Reichstag

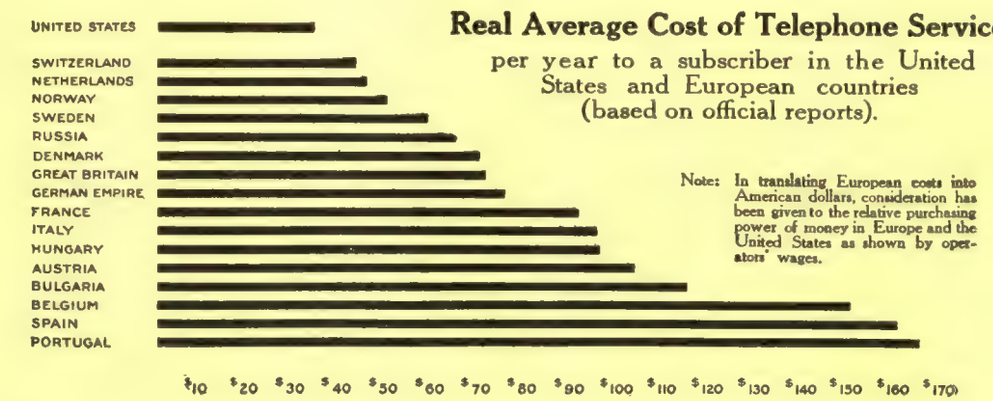
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Dr. R. Luther, in the Dresdner Anzeiger

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They have been adopted by the U. S. Pure Food Laboratories—after the most rigid tests, after the most rigid comparison. They are endorsed by Good-Housekeeping Institute and are used in the finest residences, hotels, clubs, and public institutions, where efficiency is demanded.

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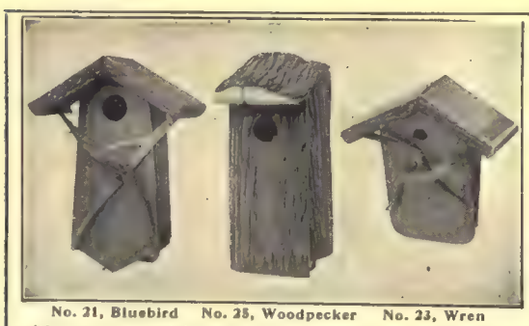
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upon them long shadows will fall "up stage" sometimes with grotesque effect. Cross lights trained, one from either side from behind a mass of shrubbery, will overcome this; or arc lamps suspended above, where there are overhanging branches to support and conceal them. It is well to still further obscure these by heavy, dark cloth hung before and over them, that no glimmer of light may shine through where no illumination is wanted, thus diminishing the effect.

Calciums and arc lights, however, are hardly to be considered as among the possibilities of amateur manipulation, and very often electricity will not be available in any form. So the old-time standby—kerosene—must serve. And very well, indeed, it will, providing it is given a fair opportunity. Many lamps of large capacity, reinforced by reflectors, will be needed, and the positions of these must be carefully tested and worked out to insure the elimination of shadows. Using them at two levels is advisable, the lower lamps being two to three feet from the ground, the higher about seven or eight feet. Footlights also, screened by a low, dense hedge, which will mask a wood or other opaque shield lined with a reflector, may be added to the kerosene equipment, if they seem to be required, although these cannot, of course, be dimmed during the course of the performance, as the concealed reflector lights may be. And lights along the lattice frame from which the curtain depends, if a curtain is used, are also possible.

Ample retiring space beyond or beside the stage is, of course, required for performers; and the theatre's charm will be much greater at all times if this space receives as careful treatment as all the rest, being furnished with seats and shelters in picturesque arrangement. Such shelters may afford dressing rooms, or tents may be set up to meet the requirements of each performance as it comes. All of this equipment, however, should be absolutely out of view of the audience, and everything tending to preserve the illusions should be carefully noted and considered, and "in back" kept as distinct from "the front" as would be the case in any well-regulated playhouse.

Musicians are, of course, to be provided for "off-stage" with a screen for the director, from which he may observe the performers and his orchestra as well. The Italian theatres show a prompter's box mid-stage, screened by greenery. Of course, provision for a prompter must be made somewhere. Often he is concealed at one side; but details such as these must be worked out, of course, according to the elements met in each problem.

The producing possibilities of a garden theatre are almost boundless, and practically any play may be adapted by a little ingenuity to performance on such a stage. The modern revival of the pageant has much that is suggestive for

special performances, however, if no play seems suitable; but we need only remind ourselves of the paucity of everything save imagination in the theatre of Shakespeare's time to see at once how much richer in beauty almost any one of his plays would be, given in such a verdant spot, than it ever was in the meager surroundings of the old Globe Theatre, Bankside, where forest and palace alike were imagined by both players and audience, under the dingiest conditions.

It is a matter of no very great importance whether or no there is a curtain; but it does, perhaps, add to the illusion and interest to use one to conceal the stage before the beginning of the performance and during the intervals in it. If this can be suspended from an altogether hidden framework it is an advantage, but where overhanging branches do not exist in a position to make this possible, a very charming effect may be achieved with a vine-festooned lattice-covered support which becomes the upper member of a frame for the stage picture when the curtain is opened. The sketch illustrates this, and also shows the method of hanging such a curtain; also the opportunity afforded for a string of lights, as heretofore mentioned. Some heavy material in a deep, shadowy woods green shade or the color of the general tone of tree trunks would be the best selection; for, of course such a curtain must be in perfect harmony with the outdoors. The lattice may be of natural, unpeeled saplings, or may be the usual lattice material stained to a natural, "woodsy" gray.

To avoid the sag of the piping inevitable in so long a span, it should be carried over at the ends and braced and tied as shown. The lattice must, of course, be supported by attaching to this, hence a stiff pipe is necessary; and supports of corresponding strength set at least three feet into the ground. And the whole should be put up by efficient workmen who understand what they are about.

A permanent garden table with seats on either side of it furnishing the space where the audience is to sit, located as shown in the plan, will, of course, be supplemented by as many chairs as are required when entertainments are given. These may be arranged some times in groups about small tables; other times in the conventional rows; but always they should be spaced out enough to allow comfortable and free passage about, with center aisle and outside ones also, if the body of the theatre is not extremely limited. Omit the center aisle where it is, and allow just the outer passageway.

An elevated stage should be not more than three and a half feet, nor less than three feet, above the level of the "pit" at its *forward edge*. From this point it should rise towards the back at not less than eight per cent. grade if the floor of the pit is level. This will assure unob-

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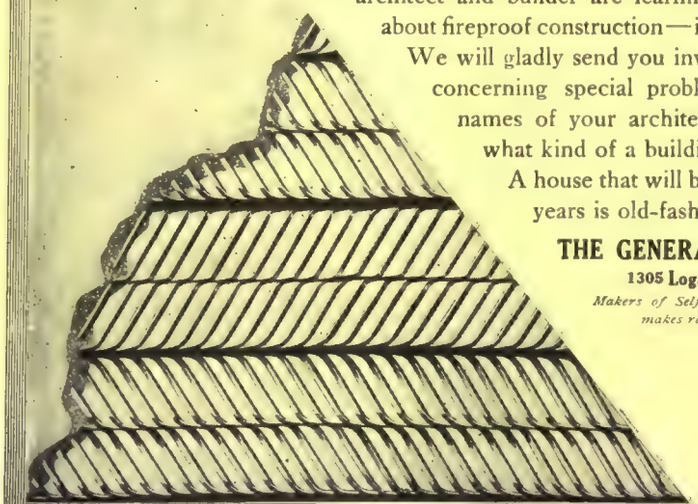
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structed vision to its furthest limits from all parts of the theatre. Adherence to the classic arrangement of the great outdoor theatres built by the Greeks, and later by the Romans, however, will insure the effect of greater spaciousness, where such adherence is possible. This plan, familiar to all, elevates the seats rather than the stage, figures and objects on the stage as they are seen from above are foreshortened slightly, and thus foreshortening renders them in appearance farther away—although this is hardly an appreciable degree, to be sure, within the compass of such small spaces as those with which we have been dealing. The stage—and the different seat levels, where these are provided—should be retained by a wall of cement, brick or stone, laid on a foundation two and a half to three feet below the ground level. A footlight trough may very well be allowed on the stage side of this wall, as the detail shows. Outside, it must be masked by shrubbery or vines—for the entire scheme demands the obscuring of all constructive material as far as possible, greenery taking its place everywhere.

An arbor or loggia or tea house may find permanent place upon the stage, if such a feature already exists in the garden space most suitable for this stage. But the construction of such a feature is doubtful policy, for something is always easily introduced to serve as such a retreat if the exigencies of a play demand; but many plays will not require it at all, and then it will be, of course, very much in the way.

So much for the theatre on its practical or working side as a theatre. As a part of the garden, whether as a small feature in a great garden or an entire garden in and by itself, it must, of course, be beautiful in all its parts and afford a charming and inviting loitering spot at any time. To this end, the auditorium must be considered from the stage quite as much as stage from auditorium; so really the creation of the entire theatre is a work demanding the most painstaking attention to every detail—design, grading and planting—with the senses ever alert to catch and fix the picturesque.

In place of a table and seats, a dial, a pool or a low, drip fountain—not a jet—may be given the axial point in the pit before the stage. Two or three permanent seats, pleasantly disposed, should always furnish both this and the stage, however; for at all times the space should be a usable retreat wherein walking or sitting will be a pleasure.

The planting should be what good planting is anywhere if the type chosen is what I have called landscape or naturalistic. The same shrubs that we use in forming lawn belts and masses generally are, of course, suitable for inclosing both stage and auditorium; and the same rule as to massing, and as to selecting varie-

ties in harmony with the native growth where there is native growth to remain, hold good.

For the more formal type of theatre, hedges of arborvitæ or of hemlock, if evergreens are wanted, or of privet or beech, where deciduous growth is preferred, are probably the best choice—and, of course, privet will give the necessary screens quicker than anything else, unless good-sized arborvitæ is chosen. These are effective as soon as planted. As a substitute for the ilex tunnels, which are not possible, of course, in a land of our stern winters, I would very strongly recommend either beech or hornbeam. Both lend themselves to pleaching, and an arborway of either one will grow to be as lovely in time as the far-famed ilex ways of Italy, or the great yew "alleys" of England.

As to flowers, have few in the theatre save those which the shrubs produce. A gay little border before the stage may suit some places, but as a general thing flowering plants are somewhat trivial, not a little distracting and quite "out of the picture," as the saying goes, within the theatre enclosure.



Roses for Every Place

(*Continued from page 370*)

stant bloomers and the most fragrant, but they are less robust in growth and so tender as to be too risky for general use in the Northern States. The hybrid teas combine the beauty of bloom, the continuous-flowering traits and the fragrance of the teas, with the hardiness, to a fair extent, of the hybrid perpetuals.

Every rose grower has his own collection of "best" roses, but of course these selections are largely a matter of personal opinion. There are scores of good garden roses, especially among the hybrid teas, and the list is added to yearly. The sorts I mention are all "tried and true," and have given satisfaction under widely differing conditions. Among the long list of hybrid teas there are Grus an Teplitz, "reddest of all red roses;" General McArthur, a vivid crimson scarlet; La France, a clear, satiny pink, for many years a universal favorite; Kaiserin Augusta Victoria, white, tinted lemon; Killarney, a strong-growing, free-blooming, brilliant pink; the Lyon, deep coral pink, that has made a great place for itself; Melody, a beautiful yellow; Mme. Ravary, a charming, unique yellow; Mme. Segond Weber, the best salmon pink; Otto Von Bismark, soft, silver pink; Mrs. Aaron Ward, deep golden orange; Robert Huey, large, bright red, extra fine; White Killarney, one of the best pure whites; Caroline Testout, an old favorite bright



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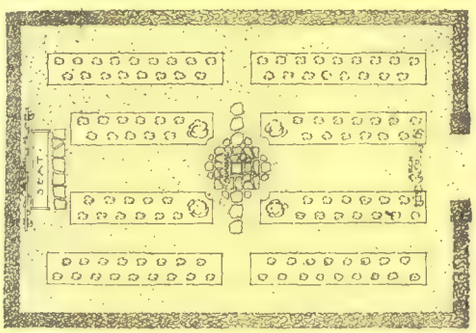
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rose; Sunburst, a glorious yellow; Mme. Edouard Herriot (the *Daily Mail* rose), superb coral red, "the greatest new rose of recent years;" Chateau de Clos Vougeot, dazzling crimson, extra free-flowering and hardy.

Among the hybrid perpetuals there are not such a bewildering number of new sorts. General Jacqueminot, the old favorite, brilliant scarlet "Jack" rose, and Frau Karl Druschki, an immense, pure white, probably head the list. Magna Charta, bright pink; Mrs. John Laing, soft pink; Ulrich Brunner, bright cherry red, and Paul Neyron, dark rose; Baron de Bonstetten, dark crimson; Clio, pinkish white, are all old favorites. Gloire de Chedane Guinoisseau, a glorious, bright red, and George Arends, a pink form of Frau Karl Druschki, are two splendid new sorts of this class.

Among the teas, Maman Cochet, deep pink; Papa Gontier, dark crimson; Safrano, saffron yellow; Perle des Jardins, deep yellow; Souvenir de Pierre Notting,



Plan for a rose garden, showing an arrangement of grass plots in relation to the beds

very deep yellow; Etole de Lyon, fresh, soft yellow, and White Maman Cochet, pure white, are all old favorites and fairly hardy, suitable for bedding along with the hybrids where proper winter protection is given. Harry Kirk, deep, sulphur yellow; Molly Sharmon Crawford, a splendid white, and W. R. Smith, ivory white with trace of pink, are three splendid, extra-hardy new teas that should not be omitted.

For best results the rose garden must be carefully looked after. It needs attention in two ways, particularly care, winter protection and pruning.

Winter protection is not a difficult matter. Remember that the purpose of winter protection is not to prevent the roots from freezing, but to keep them frozen throughout the winter and prevent their starting into growth too soon in the spring. While it is well to gather the material for the winter mulch quite early in the fall, it should not be put in place until after the first severe frosts. Either dry loose manure or dry leaves make good mulching material. From four to eight inches should be put on, according to the severity of the climate. Boards or

evergreen boughs may be used to hold it in place. In places where the winters are exceptionally severe it is necessary to tie the individual plants up with straw.

The pruning of the bushes is another important matter. To follow this task through the year, let us start with setting out the plants. Strong pot-grown plants may be set out as they are. Dormant stock, however, should be cut back two-thirds or so, leaving only three or four eyes to each cane. After the plants bloom the canes should be shortened back a little, not over a third. (If the blooms have been cut close with long stems this may not be necessary.) In autumn, after the leaves drop, any long branches or tall canes likely to whip about in the wind or in the way for putting on the winter mulch, should be trimmed back a third or so. Then in spring, as soon as the buds begin to swell, the most important pruning of the year is given. The hybrid perpetuals are pruned from late March to mid-April; the hybrid teas and teas from mid-April to May.

The severity of the pruning will depend both upon the type of plant and the purpose for which you want the flowers. First of all, cut out all dead, injured and crowding canes and any that have been winter killed back to *live* wood. Then, for the largest flowers, cut each cane back to three or four eyes; for more flowers, but of medium size, cut back to six or seven eyes; and for the most brilliant display, but flowers not so fine for cutting, merely trim back a third or so, and stake up loosely any varieties which seem to require it. This is the treatment for hybrid perpetuals; with the teas and hybrid teas about twice as many eyes should be left. Some varieties in all three classes are weaker growing than others, and these should be pruned back *more* severely than the stronger-growing sorts. In pruning, always *cut above an outside eye*. This keeps the bushes growing in an open, spreading form, resulting in better foliage and better flowers.

The garden roses, which we have been considering, are the most important group. But the others should not be neglected. There is a comparatively new type, not yet widely known. But I believe that within a few years it will rival the "ramblers" in popularity. I refer to the large-flowered, hardy climbers such as Christine Wright Dr. W. Van Fleet and Climbing American Beauty, which have, along with the constitution of the old hardy climbers, the glorious flowers, the ever-blooming tendency, and to some extent the fragrance of the beautiful garden roses. What this class, as it becomes further developed, is going to mean to the lovers of roses who have too little room and time to enjoy a regular rose garden, may readily be imagined. The plants require comparatively less care than the garden sorts. As they are usually not set in beds, but against a wall or trellis, no



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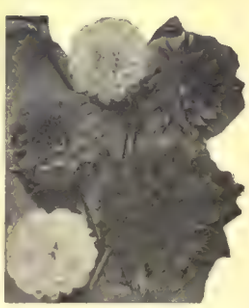
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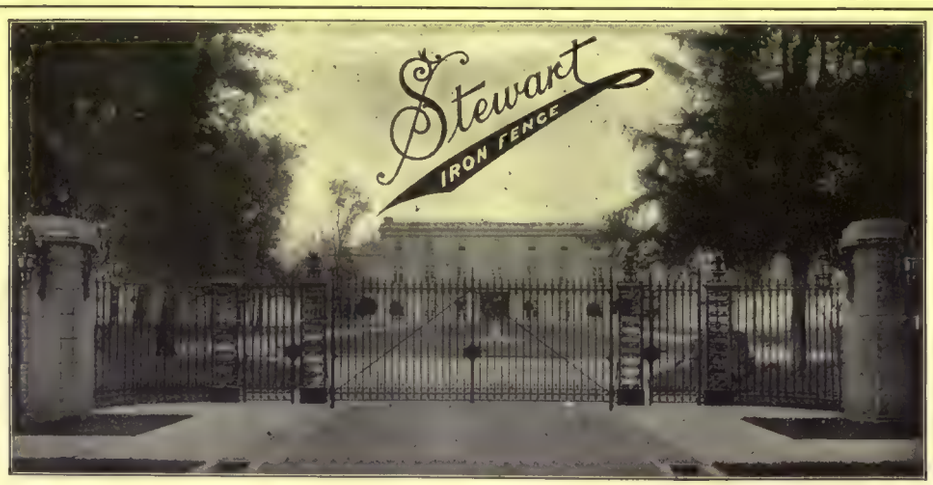
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regular beds are prepared; but a generous-sized hole should be dug up and prepared with drainage and well enriched soil in much the same way as for the garden sorts. Some of the varieties are absolutely hardy; the others should be earthed up and protected about the roots, and where necessary the long canes tied together—after cutting back to convenient length—and protected with straw. Even if they are killed back to near the ground, it is not a serious loss, as many of them make a growth of ten to fifteen feet during a single season. While the roses in this class do not as yet comprise a very long list, they already include some as beautiful as the best garden sorts. Climbing American Beauty, with flowers of exquisite form, color and fragrance, is exceptionally hardy and vigorous; Dr. W. Van Fleet has immense, soft pink, scented double flowers, born on long, firm stems; Silver Moon, glistening, silvery-white, semidouble flowers four inches across. Christine Wright, very large, double, delicate pink. Tausendschön (Thousand Beauties), is distinct from both the roses above and the ramblers. While the flowers are born in clusters, like the latter, the individual flowers are frequently three inches across. They open light pink, but change to distinctly different shades, giving a multi-colored effect. Besides these, there are climbing forms of a number of the best garden sorts, such as Kaiserin Augusta Victoria, Caroline Testout, Grus An Teplitz, Belle Siebrecht, Richmond and White Maman Cochet. While these do not flower quite as freely as the bush forms, they are everblooming. In the spring, cut the strongest canes back and cut away the small, side branches.

The climbing Rambler roses are universally known—due in large degree to the Crimson Rambler. They are extremely hardy, and on poor soil or under neglect still grow and bloom, though they deserve good care. A number of the newer sorts, in reality much more satisfactory roses than Crimson Rambler, have not made any such sensation as did that famous sort. The ramblers are adapted to many uses. As a covering for porches and trellises they are, of course, universally used. But a few hours spent in making an arch or a support over a south window, or even in putting in a few posts along the side or the back of the garden, would enable one to use a few more of the beautiful new sorts in a way that would greatly enhance the beauty of the whole place for many years to come. Now that we have some climbers that are both everblooming and hardy, the "bower of roses" is a practical thing for the North. Pergolas, or even a small summer house, can be constructed quite cheaply if one is content to use plain material, and a half dozen or so climbing roses will have it fairly well covered in a single season.

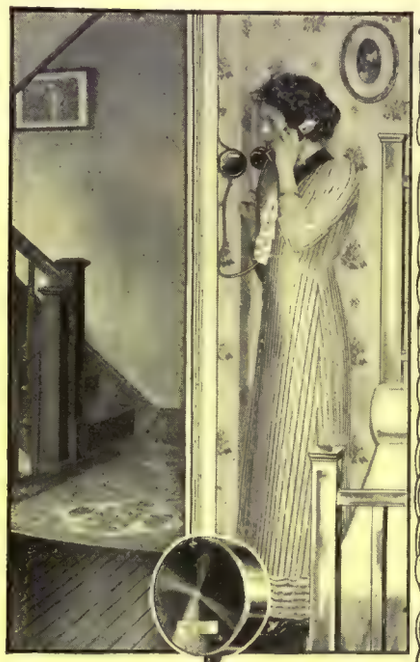
In the matter of care and pruning, the Ramblers demand very little. Most of

the newer sorts are not at all subject to disease. One distinction between most of this class and the garden roses the gardener should fix in his or her mind at once; while the bush sorts flower on new wood, most of the climbing sorts flower on old wood, most freely on wood one season old. So, instead of pruning in the spring—except to cut back any branches that may be broken or in the way—the regular pruning should be given just *after* the flowering season, when the oldest wood should be cut out clear to the ground. The other canes may be headed back and pruned and trained into the desired shape and position.

The hybrid sweet briers (Lord Penzance hybrids) and other semi-climbing or "pillar" roses of similar habit of growth, are suitable for training to stakes or heavy lateral wires, eight feet or so high. Roses so supported sometimes are quite bare at the lower part of the canes. To correct this give each cane, as it grows up, a right angle bend about a foot above the ground, before permitting it to grow straight up; this checks the flow of sap so that the lower part of the cane is better nourished.

Among the many climbing roses of the Crimson Rambler and Wichuriana types the following are all excellent: Crimson Rambler, large clusters of flaming crimson, but foliage subject to disease; Flower of Fairfield, similar to former, but with everblooming tendency; Excelsa, the most satisfactory of the crimson Ramblers; Dorothy Perkins, very free flowering, beautiful light pink, fragrant, a first-choice rose in every way; Lady Gay, delicate pink; White Dorothy Perkins, pure white; Mrs. M. H. Walsh, extra large, double, pure white; Aviateur Bleriot and Shower of Gold are two new yellow Ramblers which promise to be much more satisfactory than the old Yellow Rambler; Hiawatha, extremely brilliant crimson; Delight, bright carmine; American Pillar, soft pink, are three glorious, single-flowered sorts with white centers and conspicuous golden stamens. Wichuriana, the old favorite "memorial rose," has very fragrant single, white flowers, very hardy and much used as a trailing rose on banks or walls. The hybrid sweet briers are quite distinct. They are especially useful as a tall, informal hedge; they require practically no pruning further than to keep them trimmed into shape.

The "Baby," or dwarf Rambler, is a comparatively new class that is not yet appreciated nearly as much as it should be. Perhaps the most valuable of their many desirable characteristics is their remarkable ability for *perpetual flowering* In habit of growth they are really dwarf, growing but eighteen inches to two feet high without being pruned back. In fact, they require no pruning beyond cutting out too old wood and old flower stems. They are excellent for low borders and formal dwarf hedges, and espe-



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cially valuable as pot plants, on account of their hardiness and continuous blooming. Baby Crimson Rambler (Mne. Norbert Lavasseur); Anchen Muller, brilliant rose with waved petals; Mrs. Cutbush (Baby Lady Gay); Katherine Zeimet, pure white; Louise Walter (Baby Tausendschön); Jessie, bright red; Orleans, red with white center; and Phyllis, cerise pink, are a half dozen or so of this splendid and growing class. Include at least one or two in your order; they are cheaper than the standard sorts.

Still another type entirely distinct from all the foregoing, but having a place of its own that no other roses can fill, is the Rugosa or Ramanas roses. They grow three to six feet high, with heavy, tough, beautiful folia. Their salient characteristic is hardiness. You simply cannot kill them. They require no pruning; simply cutting away old or surplus wood—although the canes may be trimmed back into any desired shape for a more formal hedge. There are light rose and pure white, single forms—Rugosa and R. Alba, respectively. They bloom throughout the season, though not so profusely as the garden sorts. The flowers are followed by large seed pips as large as cherries, which turn brilliant red. The double varieties, of which there are several, are still more beautiful. Sir Thomas Lipton, pure white and fragrant; Blanc de Coubert, large, pure white; Conrad F. Meyer, silvery rose; Nova Zembla is a hybrid Rugosa, growing taller, and especially desirable for the shrubbery border; the flowers are white, tinted pink, and more of the regular rose form.

If you plant in well-drained soil, in an airy position, in a properly enriched bed, strong, healthy growth and an abundance of blossoms should be your reward. The two insects most likely to prove troublesome are the rose-bug and the green-fly, or aphis. The latter may be controlled easily by keeping a sharp watch and destroying any that appear, or using a nicotine spray if they get too much of a start for that. The rose-bug is more formidable. Hand-picking, knocking the bugs off with a little paddle into a ten-cent sauce pan of water and kerosene, is the surest remedy. Strong arsenate of lead spray will get them, but it disfigures the leaves and spoils one crop of buds and flowers. Paris green is sometimes effective, but you must experiment to get the right strength. If the spray is too weak there's "nothing doing"; if too strong, it will burn the foliage. The most frequent disease is mildew; this may be controlled by Bordeaux Mixture. In fact, if there is reason to anticipate trouble, the simplest method is to spray every week or ten days after the leaves come out, with one of the several good combination insecticide and fungicide sprays.

Successful Pigeon Raising

(*Continued from page* 384)

pens 9 by 8 feet each. Run this partition all the way to the roof, cutting a ventilating hole a foot square just under a cupola set in the roof, and in each gable make a corresponding window, hinged at the bottom and operated by pulley and cord from the alley. This makes thorough ventilation possible without danger of a draught, one of the most prolific causes of disease among pigeons. Give each pen an exit into the fly by means of two small openings well up under the eaves, fitted with inside drop doors to be operated from the alley, and short lighting-boards, both inside and out. Under these, set a long window, which should always stand open except in extreme weather, but should be screened with wire netting to prevent its being used as a means of egress. Otherwise the birds will be very apt to injure themselves by flying against the glass when it is closed.

Divide the pens from the alley by wire netting, in the center of which a narrow door-frame should be set and fitted with a very light wire door. Make the pen farthest from the entrance the full 8 by 9 feet, the necessary allowance of space for a hundred birds, and the second about 8 by 5, thus providing a small place in which to mate up new stock or to isolate any odd birds as occasion may require, and still leaving room for feed barrels, extra nest pans, broom, rake, etc.

Next, line the two side walls of the pens with nesting boxes made from planed inch boards twelve inches wide, fitted on both sides with cross cleats an inch square and nailed nine inches apart. These boards are set upright against the walls twelve inches apart in the clear, and when furnished with sliding floors of planed inch lumber, will make a series of boxes 8 by 12 by 12. In each of these place a nest pan, or nappy, preferably the small, yellow baking dish, as these take less than half the time to clean that the regular unglazed earthenware nappies require. Keep a constant supply of cut tobacco stems on the floor of the pen, for they are a great preventive of lice, and the birds will readily use them for nesting material. As a further precaution against these pests, give the birds a generous bath out in the flys at least every second day during the warm weather, and once a week through the winter, always choosing a clear day. For this, fill a galvanized pan five inches deep and about eighteen inches across, adding ten or twelve drops of refined carbolic every two weeks. Give the bath about nine o'clock in summer and as soon as the sun is warm in winter. Two hours is plenty of time for all the birds to bathe, and the pan should then be emptied, for the water will be full of a light gray dust from the feathers, and unfit for drinking.

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When the building of the pens is completed apply a thorough coat of whitewash to the inside, adding to each pailful a tablespoonful of crude carbolic and a scant half cup of salt. This cleansing is a sure check to lice or any kind of vermin, and will do much to preserve the health of the flock. After this is dry, spread a light coating of sand over the pen floors; place near the wire partition a small dish for coarse kitchen salt, one for mica grit, one for ground oyster shell, one for fine charcoal, a tin or earthenware drinking fountain that can be opened and thoroughly cleaned, and a long, shallow feeding trough, and the house is ready to receive the birds as soon as the flies are erected.

These should be made 32 feet long, 8 feet wide and as high as the eaves. Set up three rows of four 2 by 4 hemlock joists, the two farthest from the house spaced so as to support the gate. Around the bottom, the top and half way up the posts nail a frame-work of lighter material, setting braces across the roof between the second and third posts. This steadies the whole frame, over which must be stretched two-inch wire netting. Unless already familiar with wire netting, it will be wise to call in the assistance of some friend who understands the ways of the animal. Otherwise it will certainly be a case of bleeding fingers and lacerated morals before the job is completed. Then fit wire doors in the far ends of the flies, run a twelve-inch lighting-board all the way round about half way between the ground and the roof, level up the floors with enough sand to shed the rain quickly, and then send for the birds. Much expense and time in repairing will be avoided if plenty of good paint, Conservo, or other preservative is used on all wood exposed to the weather. Even the roof shingles will be benefited by such treatment.

The care of a small flock of pigeons is comparatively light, and under proper conditions will yield most generous results. It is not at all an unusual thing for one pair of birds to produce seven or eight pair of young in a year, while the cost of feeding, as given in Farmers' Bulletin No. 177, issued several years ago by the United States Department of Agriculture, was about fifty-two cents a bird. This was when wheat was eighty cents, Kaffir corn ninety cents per bushel and hemp $1.30, Canada peas $1.10 and sifted, cracked corn $1.00 per cwt. It will be easy to figure the present cost from the prices of the local dealer. This covers the raising of the squab up to four weeks, the killing age, until which time they are fed by regurgitation. By means of this process the parent bird first takes the grain into his own crop, and then, inserting his bill in that of the young one, transfers the partly digested food by a curious pumping motion until the squab is satisfied. This must be repeated many times during the



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twenty-four hours by both parents, and, as digestion is very rapid, the growth of a healthy squab is quite apparent from day to day. This explains the necessity for great regularity in feeding, especially at the evening meal, for the young birds must be well filled up before dark. Six-thirty A. M. and four P. M. are the best hours to feed in summer; seven-thirty and three in winter.

The regular morning ration for a pen of fifty pairs of birds is three quarts of equal parts cracked corn, wheat and Canada peas; in the afternoon the same quantity of equal parts cracked corn, Kaffir corn, millet and peas. Vary this by substituting hemp for millet twice a week, except in hot weather, and three or four times a month add a small quantity of buckwheat or rice. Lentils have sometimes been used instead of peas, with very satisfactory results, but the squab must be watched for a time to see that they thrive on the new food. The appetites of the birds will vary somewhat according to the number of squab to be fed, so that it will often be necessary to increase or diminish the rations. If, at any feeding, much of the previous meal has been left, lessen the quantity for a day or two; if the trough is thoroughly cleaned up, add an extra pint. Before putting any grain out be sure that all the droppings are scraped from the trough. In selecting grain for pigeons, never be persuaded to patronize a cheap dealer. Either his weights will be short or his grain will not be first class, and the best is the cheapest in the long run, for skinny, dark-looking squab will very soon testify to any effort to economize in the feed barrels.

Plenty of fresh water is a very important item of pigeon care, and the two-gallon fountain, which will supply all the water necessary for the day except during the heated term, should be well washed with a brush every morning. Twice a month, on days when carbolic is used in the bath, add five or six drops to the drinking water. This not only disinfects the fountain, but helps to keep the mouths and throats of the birds free from any germs which may be hovering about.

In cleaning the pens, first remove the nappy, replacing the old bed if necessary with a few fresh tobacco stems and a little straw if the squabs are very small. Next take out the sliding shelf, using a paper-hanger's wall scraper to scrape the droppings into an old pail. This method saves lots of time and makes it unnecessary to rake and sand the floor oftener than once a week. It is an excellent plan to keep a box of air-slaked lime on hand and to use it freely on the freshly cleaned shelves. It is a wonderful purifier and most discouraging to disease germs.

When buying pigeons, two precautions are of vital importance. Make sure first that the stock is good, and, second, that the birds you get are all mated. The best way to settle the first question is to in-



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—J. B. Kerfoot, *Life*, Feb. 19, 1914.

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duce some friend who knows pigeons to visit with you the loft from which you intend to purchase. The birds themselves will soon tell the story in all except the matter of age. For that, you must trust the breeder. Active, healthy stock will be large, full-breasted, walking with head erect and quick, watchful eyes, constantly on the move, as though attending to most important business. They are exceedingly nervous creatures, startled by the slightest sign of anything unusual, and at the approach of a stranger will stand straight and motionless, ready for instant flight at the least sign of danger. Inside the pens, the condition of the squab will furnish further proof of strong or weak constitutions. The nests ought to show fat, contented-looking youngsters in all stages of development, and a goodly number of eggs, though, of course, it happens somtimes that most of the hens will lay so close together that a poor week will intervene between broods. But if the squab look thin and hungry, and every here and there cold eggs proclaim a deserted nest, or if the parent birds seem droopy and listless, show watery eyes or canker swellings about the head, wish the owner a very prompt good day, and visit another loft.

The question of mating is much more difficult to answer, and can be positively settled only after the birds are established in your own loft. Even the most conscientious breeder may make a mistake unless he takes the pair of birds from the nest one by one, and even then it is no easy task. Both parents take part in the seventeen days of incubation, changing about ten in the morning and four in the afternoon, but as long as you are in sight every bird in the loft will watch your slightest movement, and if two or three particularly nervous ones rush out into the fly as soon as you open the alley gate, the others will probably take the alarm, and you will have to try again. To complicate matters still further, it is often impossible to tell a cock from a hen bird with any certainty, either from appearance or from general behavior. Either one may be the larger of a pair, and a hen-pecked husband is by no means an unknown condition. Both share the responsibility of nest-building, incubation and feeding, so that catching them right on the nest is the only sure way. But in putting new birds into the quarters described above, get twenty-five pairs at a time, and put them in the small pen; then, as they begin to lay, remove one pair at a time to the larger pen, and if any odd ones are left, report at once to the breeder that he may remedy the mistake. This work demands time and patience, and may seem unnecessary to the beginner, but the infinitely better results far more than justify the trouble. If it is desired to increase the stock from your own birds, take the young ones out just before they are ready to leave the pen, band them, and remove to the



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smaller quarters until mated. To ensure accuracy in this part of the work, a careful record should be kept, based on the list which the breeder will have furnished with the original birds. For example:

25 b. b. hen, 62
32 r. ch. cock, 63

This indicates that the pair is made up of a blue-barred hen, band number 25, and a red checkered cock, band number 32. They nested first in box 62 and then in box 63. These box numbers are not always necessary, and sometimes a pair will use only one box, but they will be found very helpful in keeping track of the work of the different birds, also in mating up young stock, for nest-mates should never be allowed to begin housekeeping together. Then, too, the keeping of records will teach you a lot about the habits of the birds. You will study them much more keenly as you come to realize that they are as distinctly individual as dogs or horses, and the more you know about them the more you will want to know.



The Boundary for the Country Place

(*Continued from page 379*)

iron strap hinges for the informal gates and regular pin butts for elaborate ones. A latch should be provided either of wood, to be old fashioned or of iron. Turnstiles are quaint adjuncts to fences in old-time gardens. They are seen more in England than here, but are often useful in connection with a large gateway for vehicles.

I dare say for general utility and length of service the wire fence with iron posts gives the best results for the amount of money expended. They are quickly erected and need but a few repairs. However, the possibilities, artistically, are limited. The posts are set in iron anchors which require little digging, and spiral wires, with a flat, cross section, are run between. The greatest objection to this fence is that it is easily climbed and consequently not only allows the ingress of intruders, but causes the wires to be broken or pulled out from the fastenings at the post, which consist of wire elliptical rings passing around the horizontal wire and through a hole in the flange of the post, whose cross section is in the form of a T. To avoid climbing, barb wire and high, non-climbing mesh are used.

Another serviceable form of wire fence is composed of concrete posts and horizontal wires. The posts are molded with holes for the wires to pass through, and are re-enforced with steel rods. Railroads use this extensively along their



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right-of-ways. Instead of the holes in the posts, staples may be set in the concrete before it sets and the wires passed through these. If a wire mesh is used instead of horizontal wires some interest may be effected by the weaving of the wire or by the proportioning of the meshes.

The best wire for a fence is one that is of hard steel, but not of spring-steel grade. It should be able to stand considerable abuse and hard wear, yet at the same time be easily spliced. Top and bottom wires to hold fabric between are best of carbon steel.

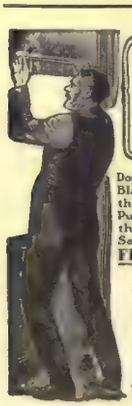
The all-iron fence, whether cast or wrought, is an expensive proposition compared with the fences previously discussed. Iron fences are usually elaborate and require special molds and castings if an original design is used, but many fairly good designs are supplied from stock by the manufacturers, and these, of course, are cheaper than the ones specially prepared. Iron in connection with brick or stone is effective. The color of wrought or cast iron with masonry is always pleasing. Masonry piers with iron between is a common form. Take care, however, that if the design of the ironwork is formal the pier should be formal, and vice versa. Wrought iron has a better texture and color than cast iron, but costs more.

In general, iron and wire fences should have their posts so secured that they may not be lifted from the ground by frost. If the iron is set in concrete bases it is liable to rust quicker. Use cast iron anchor bases and select a fence that can be put together by ordinary tools.

The best manufacturers' catalogues give excellent information about iron and wire fences, and show diagrams for their setting and assembling.

The original wall was of stones gathered from the surrounding land and piled unevenly to form a barrier. This is a dry wall, and even to-day there are more dry stone walls than any other kind.

A dry wall is the easiest of the masonry walls to build. Large, flat stones are selected for the base, and are laid somewhat below grade. On these come the regular wall stones. Select stones that have a natural bearing surface, for, of course, the more rounded the stones are, the more liable they are to roll down or become dislodged. The quickest wall to build is where no special regard is given to regularity or to height; consequently, great care is unnecessary in choosing the stones or fitting them to their places. A better wall is obtained when a fairly true surface is kept and the stones fitted to their places, even if it is necessary to break some pieces or trim them with a stone hammer. If the stones come in lengths greater than their depths, or are fairly rectangular, a more pleasing appearance is the result. This is true of any stone wall, for the impression is one of permanency, while rounded stones,



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especially cobbles, give the feeling that they may at any moment roll from their places, and in truth they would if it were not for mortar holding them together. The spaces between the large stones are filled with smaller ones, but it is best to keep those more for the interior of the wall than for the outer faces. It is not well to make a dry wall less than two feet in thickness. This at the top, for a small batter or inclination toward the center helps the stability. This thickness is for a wall of 3 feet or less in height. For every 6 inches additional height the width should be increased 4 inches. All stones of a straighter character should by all means be laid on their natural beds. They are not then as liable to scale.

The top of a dry wall may be finished level, with the stones as they come or have a coping. The coping can be of broad, flat stones laid dry covering the entire width of the top, or they may be set in cement mortar, the interstices being well slushed up with the mortar.

The life of any stone wall or pier is increased if it is carried below the frost line, which should be from 3 to 4 feet. But this is too expensive in proportion to the cost of a dry wall. In a wall of cut stone laid up in mortar it is more necessary, as any settlement or heaving will show cracks in a wall of this character.

A wall set in cement mortar is naturally more permanent. Each stone is then held firmly to its neighbor, and the whole becomes almost a monolith; especially is this true when all crevices are well filled up with the mortar. There are several ways in which a wall of this kind may be laid up. The joints between the stones are often filled with the mortar flush to the outer surfaces of the stones. By this method truer and more even faces are secured. Sometimes the joints are raked out. That is, the mortar does not come out to the surface, but stops anywhere from one-half to two inches back. If it is carried in deep enough the effect of a dry wall is the result. In a very thick wall, say three feet, mortar is only necessary in the center, and this also has the appearance of a dry wall. The method of laying is determined largely upon the nature of the stones and kind of surface wished for. If the stones have rounding faces it is a saving in mortar not to make a flush finish, for, as some stones are bound to project beyond others, it would be necessary to bring the mortar to the outer faces of these. But this would probably cover up many of the stones that did not project. However, some charming walls have been built where about 50% of the surface showed stone and the other half cement. The appearance here and there of a stone contrasting with the cement makes an interesting color effect.

In masonry terminology, the walls described above would be called rubble. Rubble is the simplest and least formal type; the stones are irregular in all di-



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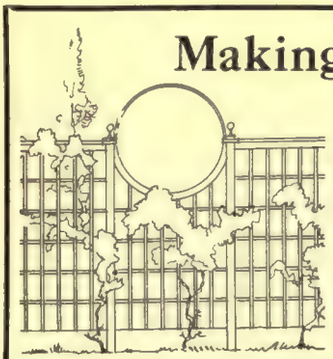
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mensions, and are laid up as they come with as little breaking and splitting as possible. If the stones are laid in courses the wall is designated as "coursed rubble." After rubble comes random ashlar. Technically, an ashlar is a veneer of stone that is used to cover and give a finish to a rougher wall behind. This backing wall may be of rubble or of brick. A "broken ashlar" is where the stones, while having the exposed faces dressed or trued, are of unequal sizes, though rectangular in shape. "Coursed ashlar" is where any course is of the same height for its entire length.

A wall of this kind is a big step toward the formal. It is much more expensive to build over the rubble wall and takes more skill in the building.

Perhaps there is no building material better than good, hard burned bricks. They have had the test of time such as no other material made by man has had. They have wonderful variation of color, a pleasing range of surface textures, and when laid up in cement mortar a permanency that not even stone can exceed. Coming in regular sizes, a wall of them may be of any thickness provided the dimension is a mutliple of four, the depth in inches of the average brick.

The thinnest possible wall of brick is four inches, one brick deep. This, if built straight, would have little strength laterally, and therefore a four-inch wall is run zig-zag like a snake fence or broken up into short runs by other methods. If each run is not too long and the height is low, say not over five feet, a fairly strong wall is constructed. This zig-zagging, however, takes up ground space, so strength may be secured by using piers at 6- to 10-foot intervals. If carried below the frost line, greater safety is the result, for a wall so thin has little weight, and is easily heaved out of place.

Some walls are built with two thicknesses of brick and an air space between. The two shells are held together with bonds which may be brick laid the longways across, or may be of metal, special metal bonds coming for this purpose. Hollow walls, on account of the air space, retain heat longer than solid walls, while they require 25% less brick than the latter.

If we find that a wall, for its length, height and position, should require twelve inches of thickness, it would not always be necessary to make the entire length so deep. By putting in piers at, say, eight or ten-foot intervals, and making them sixteen inches or more square, the wall could be reduced to eight inches. These piers stiffen the wall, act as buttresses and help give lateral strength. If the piers are of great height, ten feet or over, a bond stone, which is a stone four or more inches thick running through the entire pier, helps tie the whole together, this bond stone may be placed as near the center of the pier as the design will permit.

The top of a brick wall is capped with stone, terra-cotta, cement or brick set on edge. The stone and terra-cotta coping are more lasting. The old expedient to exclude trespassers, of imbedding broken glass and bottles in cement, is still occasionally seen.

Like stone, the brick should be set in Portland cement mortar, and the same directions for color apply as above. The joints can be flush or raked out.

The method of placing the bricks in the wall is called the bonding. The usual forms are common or American bond, English bond and Flemish bond. The illustrations show the varieties and also that through bricks at intervals are necessary to the strength. The common bond takes less brick than the other two, as only every sixth or seventh course is laid headers. The headers are the ends of the bricks exposed, while the stretchers are bricks laid the long or natural way.

It is hardly necessary to say that concrete is becoming more and more an important material in fence and wall construction. One has but to look about one to see its increasing use everywhere. From the city dwelling to the farm, concrete, either for posts, entire walls or foundations, is more and more in evidence, and when used judiciously and with proper care in the mixing, we doubt if a better material could be used for certain places and conditions.

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Concrete combines well with stone, brick, wood or iron. Its simplest use is for the posts of a wood or iron fence; we have already spoken of the wire fence with concrete. To elaborate the spaces between the posts may be filled in with a solid concrete wall, and, furthermore, brick and stone may be employed with the concrete for this purpose.

While concrete has great crushing strength and is able to resist great weights placed upon it; in comparison it has little tensile strength. It is well, therefore, to provide this tensile strength by some other material. Steel rods are usually employed for this. They are placed where the tensile stress occurs. If a load is applied to a concrete beam, the tendency to bend causes the molecules in the upper part of the beam to be compressed and those in the lower part to be pulled asunder. The steel rod or rods placed below the center, by their great tensile qualities, supply the needed strength. Posts should have two rods, placed vertically in diagonal corners, and walls can have either rods placed vertically or a steel mesh running lengthwise with the wall. If a wall is thick and not high in proportion to its width this reinforcing is not necessary. Expansion joints should be left in all continuous walls, and precise information about these is obtained from the hand-books.



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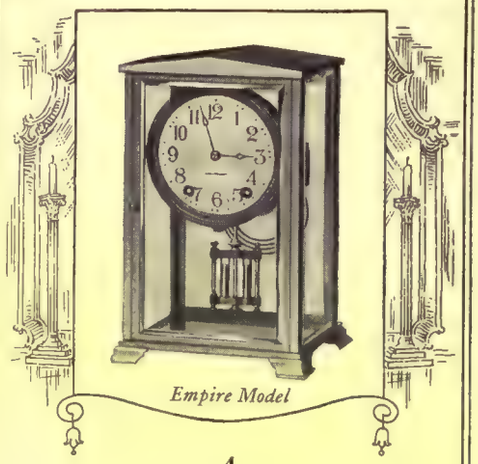
(*Continued from page* 385)

to mature, there is no reason for going without them.

Here is a combination to supply you through the season with first-quality beans. About May 10, make a small planting of Stringless Greenpod, and if the ground is dry and the weather warm, risk a row of Brittle Wax at the same time. About two weeks later plant Brittle Wax and Golden Scimitar or White Wax, or New Kidney Wax, and Burpee-Improved dwarf limas. About the same time put in a few hills of Burger's Greenpod and a larger number of Golden Cluster or Sunshine Wax. Also plant—or better set out in pots or sods—a few hills of Early Leviathan and a larger number of Giant Podded pole limas. About the middle of July or first of August sow another small supply of an early sort, preferably Keeney's Refugee, to supply snap beans from late fall until frost, when the pole varieties may be getting a little old and tough. Pick the pods, or pull the vines with the pods on, of all surplus sorts that are good for dry beans, just as soon as the pods become *thoroughly* dry. If left they are likely to spoil if wet weather comes on. Keep them in a dry, airy place until ready to shell.

While beans do not, of course, require so fine a seed-bed as many of the other vegetables, yet the soil should be thoroughly prepared, both because most of their growth is made during a period of hot, dry weather, when all the moisture which can be saved by a good dust mulch will be required, and because, to supply the demands of their very rapid growth, their plant-food should be made as available as possible. Give a moderate dressing of a good garden fertilizer, or of old manure. A large supply of nitrogen is not as necessary as with most of the other garden vegetables, but there should be some immediately available to give the plants a quick, strong start, and, unless it is in the soil, a single application of nitrate of soda about the time of the first hoeing will be useful.

A mistake very commonly made in handling beans and other tender crops which are not planted until several weeks after the early garden, and yet too soon to allow taking another crop off the ground first, is the neglect of the soil before planting. If it is left for several weeks loosely and roughly thrown up as the plow or spading fork leaves it and dry or windy weather intervenes, by planting time serious injury will have been done. It is much safer to prepare the ground at once as smoothly as if it were to be planted, and thus not only save the moisture by forming a dust mulch at once, but give the first crop of weeds an opportunity to sprout, getting rid of them easily when going over the



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strip a second time to prepare it for planting.

As to the proper time for planting, that is even more difficult to suggest with beans than with most of the other garden crops. Danger from frosts should be past, and the ground warm and dry. About the time you can put in your first planting of sweet corn conditions will usually be all right to make a first sowing, because, even if the frost should get it, the seed will have cost but a few cents. If you wish to rely upon only one or two sorts for the season's supply it will be necessary to make sowings frequently—every ten days or two weeks. But usually it will be more satisfactory to depend upon some such combination as that suggested above. The first planting should be made quite shallow—an inch or so deep—because the soil is drier and warmer near the surface. After that they should be covered a couple of inches. The lima beans should always be planted on edge, with the eye down. They are placed singly three or four inches apart in the row, and unless the soil is light and fine they should be covered with some specially prepared light soil, of which it will not take very much to cover a row or so, or a few hills. The snap and wax sorts are scattered thinly into the row, an inch to two inches apart, and, if the soil is at all dry, should be pressed down with the foot or the back of a hoe before covering.

For the pole beans, both limas and other sorts, unless the soil is quite rich, it is a good plan to give the hills special preparation in advance. Dig them out a couple of feet square, several inches deep, and put in a good forkful of well-rotted manure or compost, or a couple of handfuls of tankage, or cotton-seed meal and bone flour mixed; in either case, work this dressing well into the soil in the hill and cover with moist, fresh earth. Plant six to ten of the pole beans, or four to six of the limas, in each hill, pressing firmly into the soil.

The supports for pole beans may be ordinary sapling poles, cut eight feet or so long and trimmed rough, so that the vines may get a better hold; or regular supports may be made easily from stout posts, such as 2 by 3-inch scantling and laths. It is best to set these in place before planting the beans, as it can be done better and more conveniently, and there will be support for the vines as soon as they need it. When the "runners" first begin to form, help them get started up the poles right, as a vine that once begins to sprawl over the ground is sometimes very hard to train. After the vines reach the top of the poles they may either be pinched off, which will tend to give earlier beans, or left to take care of themselves.

The lima beans not only require a longer season, but they are much harder to start, as they rot very quickly if the soil is at all cold or damp. When plant-

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ing them outside, try to select a time when there is least likelihood of rain for a day or two, and, if planting in hills in rather heavy soil, put a shovelful of sand on top of the hill before planting, and cover with light soil.

But the easiest and surest way of starting the pole limas is to use square paper flower pots or dirt bands. Pack these in a flat, filling them with light, rich soil, and filling in the crevices between with moss, sand or soil to prevent them from drying out too rapidly. Give a thorough watering, and a day or two later plant the beans, shoving them eye down, three or four to a pot. Keep in a warm place without watering, and in a few days practically every one, if the seed was good, will be up. As soon as well started they should be thinned to two plants to a pot, as that is enough for a hill or pole. They may be planted in this way two weeks or so before they could be sown outdoors, and with much more certainty of results. Before setting out in the open, keep them for two or three days in an open frame, uncovered day and night, so that they will be thoroughly hardened off.

As soon as the plants are well started, whether sown in drills or hills, they should be thinned out to the proper distance, which is two to four inches for snap and wax sorts, four to ten for the bush limas; two to four plants for the pole sorts in each hill, and one or two plants of the limas. You will get not only poorer quality, but fewer beans by letting the plants crowd each other too much. Cultivate regularly with the wheel-hoe between the rows to maintain the soil mulch, and don't let the pods ripen on any plants until you are ready to let them stop producing. Keep them picked, whether you can use them or not, as long as you want the plants to keep on bearing new pods. Never hoe or pick or disturb the vines while they are wet, as this is thought, upon good authority, to induce injury from "rust," which is the disease most likely to cause trouble with your garden beans. If you have trouble with it, spray with Bordeaux mixture.

Garden Suggestions and Queries

(*Continued from page* 390)

Feeding the Plants

Of course, most of the plant-food was, or should have been, put into the ground before planting. Nevertheless, it is often advisable to "speed up" the rate of growth. The reason is that most plants need proportionately more nitrogen during the early stages of growth, and the nitrogen in manures and many sorts of fertilizer becomes available only gradually, so that just when it is most needed there is least of it. It is for this reason that top-dressings with nitrate of soda give such excellent, sometimes almost incredible, results with many garden crops. It is a white crystalline product resem-



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bling common salt. It is very high in nitrogen, containing over 15%, or thirty times as much as good manure. And this nitrogen is practically all immediately available. So it must be used *very* sparingly. If applied broadcast it should be put on so thin you can barely see it. Or, with plants set out, such as cabbage and tomatoes, scatter a very little—one small handful will be sufficient for a number of plants—about each plant or hill. It is best to apply it if possible just before a rain, or to work it into the soil with rake or hoe. Or, for use about the flower beds, or on potted plants, use a solution of one tablespoonful in a ten or twelve-quart watering can. Bone flour and muriate of sulphate of potash can also be used to advantage as top-dressings where the soil is poor, working them into the soil as deeply as possible. But they are better applied before planting where possible. On permanent beds, hardy borders, about vines and shrubs they will, of course, have to be applied as top-dressings, and worked into the soil with the fork or hoe. A handful each of soda and potash to two to four of bone will give an effective mixture, convenient to apply and giving quick results.

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In order to be sure of a full stand of the various vegetables, we sow the seed much thicker than the plants should stand in the row. Consequently, if the seed is good and the soil and weather conditions favorable, the seedlings come up much closer together than is desirable. As soon as possible they should be thinned out. If they are allowed to go long enough to begin to crowd each other the tops quickly become tall and spindling and the roots entangled in each other, so that when you do try to thin them out you will find the crop badly injured, if not ruined. It is well, if possible, especially if the plants have attained any size, to do the thinning just after a rain, or on a cloudy day. But don't wait for ideal conditions when the job is waiting to be done. With many of the flowers, not only thinning out, but pinching back, is necessary to get a good, sturdy, stocky growth. Many of the annuals have a tendency to shoot up in one tall, straight stalk, which bears the first cluster of buds. If this is pinched back just as the buds form, the side shoots will be stimulated into active growth, giving a stocky, well-branched plant, better for both transplanting and flowering.



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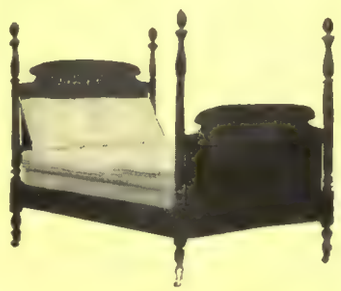
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Our Friendly Frogs and Toads

(*Continued from page* 362)

ing various small insects. Its natural enemies are the weasel, mink and the copperhead snake. Its main defense lies in the pale, brown coloration, like the dead leaves that carpet the woods, but it is also able to leap surprising distances, and keep on going like an animated rubber ball.

In contrast to the modest colors of the wood frog is the gaudy pattern of the leopard frog, our most beautiful amphibian, and ranging generally over the United States. The bold, black spots cause him to resemble the swamp-meadow frog, so familiar to the country lad as bait for pickerel. Though similar in pattern, the swamp-meadow frog has squarish spots, and the legs are inclined to be ringed with black, rather than spotted. Under ordinary conditions this is a difficult frog to study as a captive. It will not survive unless kept in continuously cool, preferably running, water. It is sometimes called the "poison frog," as the skin exudes an irritating and strong-smelling secretion. Even the hungry toad-eating snake makes but a half-hearted attempt to swallow a swamp-meadow frog, and soon releases his prey. The serpent's mouth-parts at once become red and sore, and the reptile seeks water to wash away the burning taste. The great abundance of this frog is probably brought about by its unsavory skin and the consequent absence of natural enemies. A prowler in the damp meadows, it is a valuable insect destroyer.

Our favorite among the frogs is probably the common green-headed species—the pond frog. The male has a bright, golden throat, and his mate is silvery white beneath. The ringing croak from among the lily-pads is part of the fascination of a pond. Unfortunately, the advent of the air-gun and the light rifle, together with the high reputation of frogs' legs, have greatly lessened the numbers of these frogs. In many large areas they have almost disappeared. Happily, something is being done to save these useful allies of man's welfare. Game laws have already gone into effect prohibiting the capture of frogs during April and May—the breeding season—and the writer has liberated batches that have been confiscated in the market.

When we hear the deep, throaty bellow of the big bullfrog, by far the largest of our amphibians, it should be realized that if these burly songsters are in a pond or narrow stream they are about the only species of frog represented there, for here we have a cannibal that even preys upon its young. Young bullfrogs look something like the common pond frog, but are easily distinguished by their habit of taking the water when alarmed. The pond frog silently jumps and disappears with a

(*Continued on page* 424)

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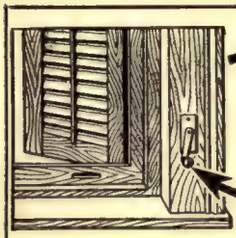
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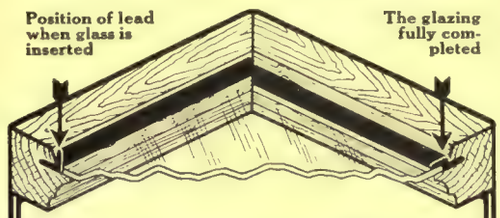
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Our Friendly Frogs and Toads

(*Continued from page 422*)

simple "plunk." The bullfrog skims along the surface for a few feet, uttering a series of high-pitched, miniature barks. The adult attains a weight of over a pound. As with all frogs, the male differs from the female in having much larger ear disks—nearly three times the size. It is the limbs of this species that the markets sell as "frog legs," as those of the green-head are rather too small to be commercially handled. Owing to the high price of the delicacy, many frog farms have been attempted, but the venture is not practicable. The usual "frog farm" is simply a frog-infested area, where the amphibians do pretty much as they please except giving up their lives and legs in season.

Squatting in the water with its elastic throat muscles just above the surface, the bullfrog turns loose its sonorous call. The vibrations spread along the surface of the pond, and we thus understand why the sound carries so far on a still night. The whole organization of the frog is built around the subject of Appetite—with a big A. Eighty per cent. of the body cavity is stomach, and the gaze through the great golden eyes focuses only on objects that move. A brain weighing about one one-thousandth the weight of the creature has but a single dream—Hunger. Thus the bullfrog waits. Insects are lapped up by a flash of a sticky tongue, but the frog's delight is to seize prey that must be tucked and jambed whole into its enormous mouth. Birds, rodents, other frogs, young terrapins disappear within this voracious monster, while out in deep water lurks the terrible snapping turtle awaiting a chance to check off an incident in the balance of life, if the frog ventures to the opposite shore.



Choosing Flowers For Their Color

(*Continued from page 364*)

or markings which make them acceptable among cream pinks of various depths.

The early chrysanthemums include "Provence" and "Le Yonne," of good, deep Hermosa tone; "Mme. A. Nonin," paler, and "Sally," a deep pink and cream of delightful effect.

There are not many cream-pink annuals; some of the Shirley poppies, a fairly good shrimp-pink zinnia, and among the very best of all the cream-pinks, the pretty hermosa *Phlox Drummondi* "Chamois Rose."

Simple rules for the use of pink are these:

(*Continued on page 426*)

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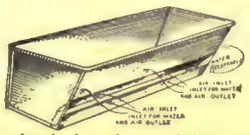
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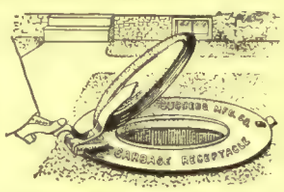
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(*Continued from page* 424)

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THE following crab apples belong to what is botanically known as the *Malus* section of *Pyrus,* and this in turn is a member of the *Rosaceae* family. These *Maluses* certainly have many claims upon the garden lover, as they produce enormous quantities of blossoms in the spring; their foliage remains in good condition till the fall, and many of them carry a profusion of ornamental fruits.

Malus Floribunda, a native of Japan, is one of the most desirable, and makes an excellent specimen where it has sufficient room to develop. As it grows here it is a broad shrub with a trunk dividing at the base into several large branches. It is the earliest to flower, and the flowers are deep rose color in the bud, but when open are white, suffused with rose, of good size, and are produced in great numbers along the full length of the branches. The foliage is dark green and abundant. A variety of this, *Atrosanguinea,* is one of the handsomest flowering shrubs, the flowers being a decided dark red color, and the habit is frequently pendulous.

Malus Neidwetzkiana is particularly ornamental and very distinct from any other species. The flowers are large, extremely showy and a peculiar rosy-red color. This malus fruits quite freely, and the fruits are permeated, as are the leaves and bark, with a reddish tinge.

Malus Halleana, or *Parkmanni,* is one of the most beautiful, and has rosy-red flowers, which are semi-double and last for a considerable time in good condition. It is a small, not vigorous, tree. This variety and *Malus Scheideckeri,* which has large flowers deeply flushed with pink, are two excellent subjects for forcing in pots.

(*Continued on page* 428)

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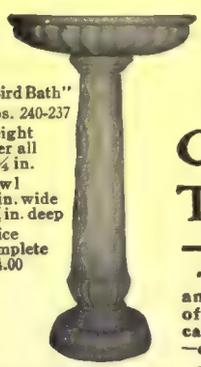
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The Best Ornamental Crab Apple

(*Continued from page* 426)

Among the single flowering varieties, *Malus Arnoldiana* has no superior. Even young plants flower abundantly, and a well-established specimen in good condition is unsurpassed by any spring-flowering shrub. The flowers are very large; white on the inner side and heavily suffused with dark red on the outer, which makes an excellent contrast. The slightly pendulous habit of the long branches adds to the beauty of this expuisite shrub, which should find a place in all gardens.

Malus Sargentii is also extremely effective. The flowers are very pure white, and the season of bloom is somewhat later than the majority. This is a very valuable shrub of medium size.

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Malus Baccata, the crab apple of Siberia, is a beautiful small tree, and very conspicuous when loaded with bright red fruits. The varieties, *Cerasefera,* with scarlet, and *Lutea,* with yellow fruits, are worthy of a place in any garden.

Undoubtedly, the finest of all the double-flowering trees, is *Malus Ioensis Flore-Plene,* which does not flower until the end of May. The individual blossoms are very large, sweetly-scented and a warm rose in color.

Other good crabs are *Ringo,* a Japanese species; *Malus Dawsoniana,* which is very effective as a specimen on grass; *Malus Flore-albo-pleno* and *Toringo,* a pleasing dwarf variety.

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(*Continued on page* 430)



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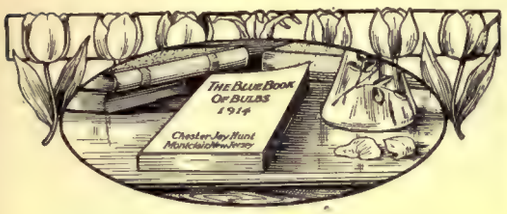
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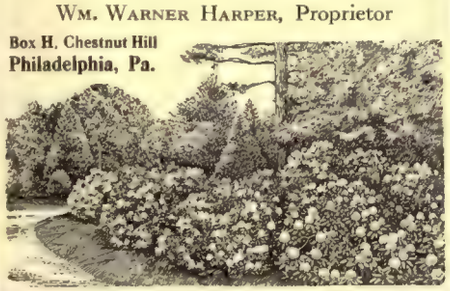
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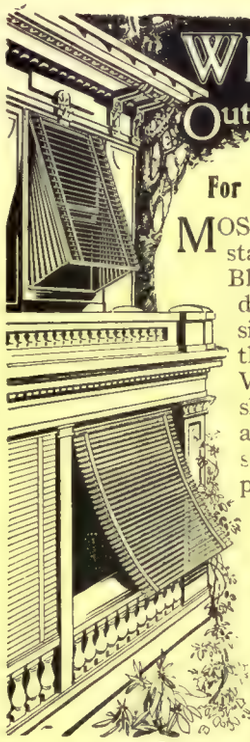
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The house must be a country or suburban home, first occupied between Jan. 1, 1913, and Jan. 1, 1914. It must have cost not less than $5000, exclusive of the land and interior furnishings. It must be a year-round home, completely equipped with heating, plumbing, etc.

BASIS OF AWARD

It is intended that the best house of the year shall win the prize. The cost will not enter into the matter at all, so that a $5000 house will have just as much chance of winning as one costing many times that amount. To this end the entries will be judged on a point system, in which the 100 points representing perfection are divided as follows: plan, 35; exterior appearance, 25; interior equipment and furnishing, 25; setting (by which is meant the arrangement of paths, garden and planting in the immediate surroundings), 15.

ENTRY REQUIREMENTS

The competition is open to any house built on the North American continent conforming to the "conditions" above stated. (The owner need not necessarily be a subscriber to *Country Life in America*). Each house must be represented to the judges with the following material, which shall be in the hands of the Competition Editor, *Country Life in America*, Garden City, L. I., on or before July 1, 1914: (1)—Plans of first and second floors in black on white paper, drawn to a given scale or dimensioned. (2)—Sketch block plan of house and immediate surroundings. (3)—At least 8 photographs, not smaller than 5 x 7 in., of which not less than three shall be of the exterior, nor less than one each of living-room, dining-room and owner's bedroom. (4)—A typewritten description of about 1000 words, supplementing the photographs and plans and describing materials, color schemes and special points of construction, arrangement and furnishing.

THE JUDGES

Mr. Guy Lowell, architect and landscape architect, of Boston, Mr. Howard Van Doren Shaw, architect, of Chicago, and the Editor of *Country Life in America* will be the judges. These three will designate the winner of the prize and will award honorable mention to such other houses entered as may in their opinion merit it.

$1000 to the owner,—a gold medal to the architect

$1000 will be paid to the owner of the house selected as the best of those submitted. A gold medal, suitably engraved, will be awarded the architect of the same house.

Plans, descriptions and photographs entered will be returned only to those enclosing postage or express return charges. The material describing the prize-winning house will become the property of *Country Life in America*. The material describing houses awarded honorable mention may be retained and paid for at the magazine's regular rates.

The prize house and a number of those awarded honorable mention will be published in *Country Life in America*, "The Best House of the Year" appearing in the October (1914) Annual Building Number. Arrangements are now being made to exhibit photographs and plans of the successful houses in several of the larger cities.

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A New Kind of Bird-House

(*Continued from page* 428)

home. With a small tack hammer begin at the hole and gently and carefully chip the original hole in the pot to the size marked around it with the lead pencil. Do not get it larger, for if you do a larger hole would mean that English sparrows, who push themselves everywhere without an invitation, would probably take possession of each house as fast as you nail them up.

Now, having the pots ready, saw pieces of board a little larger than the outside diameter of the pots, and with four wire nails having nice large heads to them, fasten the pots to the supports by driving the nails into the blocks of wood until the heads clamp the collar and hold the pot firmly in place. Next, get some branches from a tree and clip off the limbs so that the forks formed by the stumps can be fastened with small wire nails around the pot so they will form alighting places for the birds.



A bird-house made from a flowerpot

Now you are ready to nail up your bird-houses. Place one under the eaves of the porch, one on the garden fence alongside of a growing vine or a bush, and maybe a third one to the tree trunk, right under the first big limb, even if it it's only five or six feet from the ground, for wrens prefer to nest low, since they spend most of their time searching for insects along the fences and in the low bushes.

Have the boxes in place not later than the first of April—then watch! Would it not be a pity for any would-be tenant to pass by your home because they could not find a house to let? When you awake some April morning, a tiny brown bird, just returned from a long visit south of the Carolinas, will probably alight on the perch in front of one of your homes, peep in the door-hole, enter, look about with approval, come out and begin his search for twigs to furnish his new little home.



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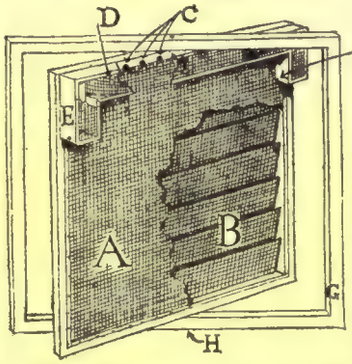
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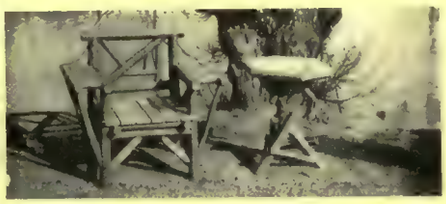
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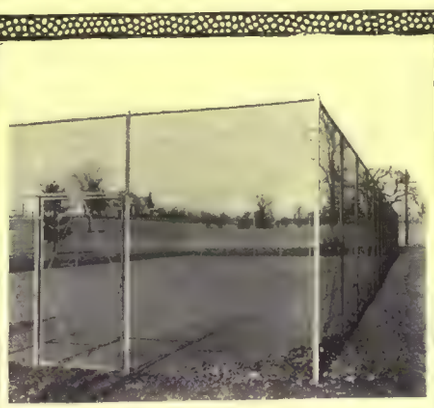
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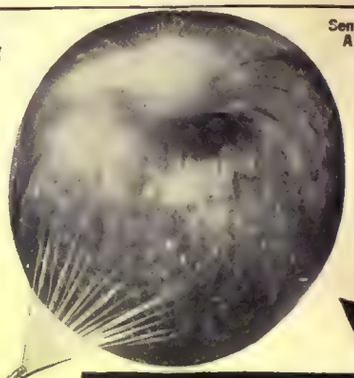
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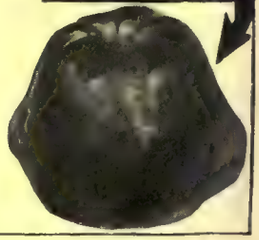
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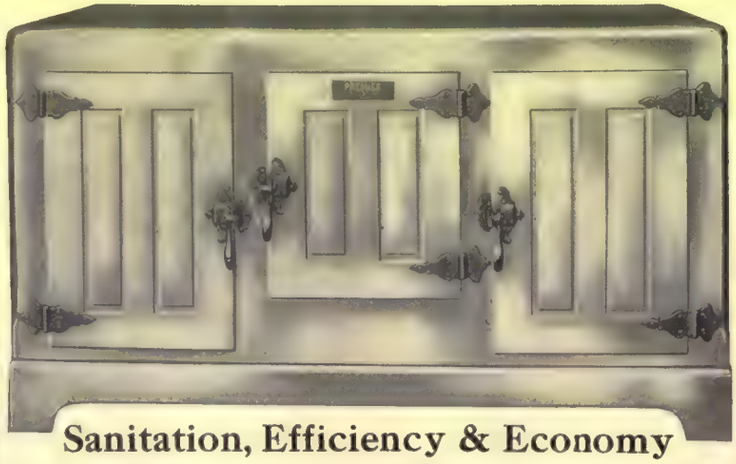
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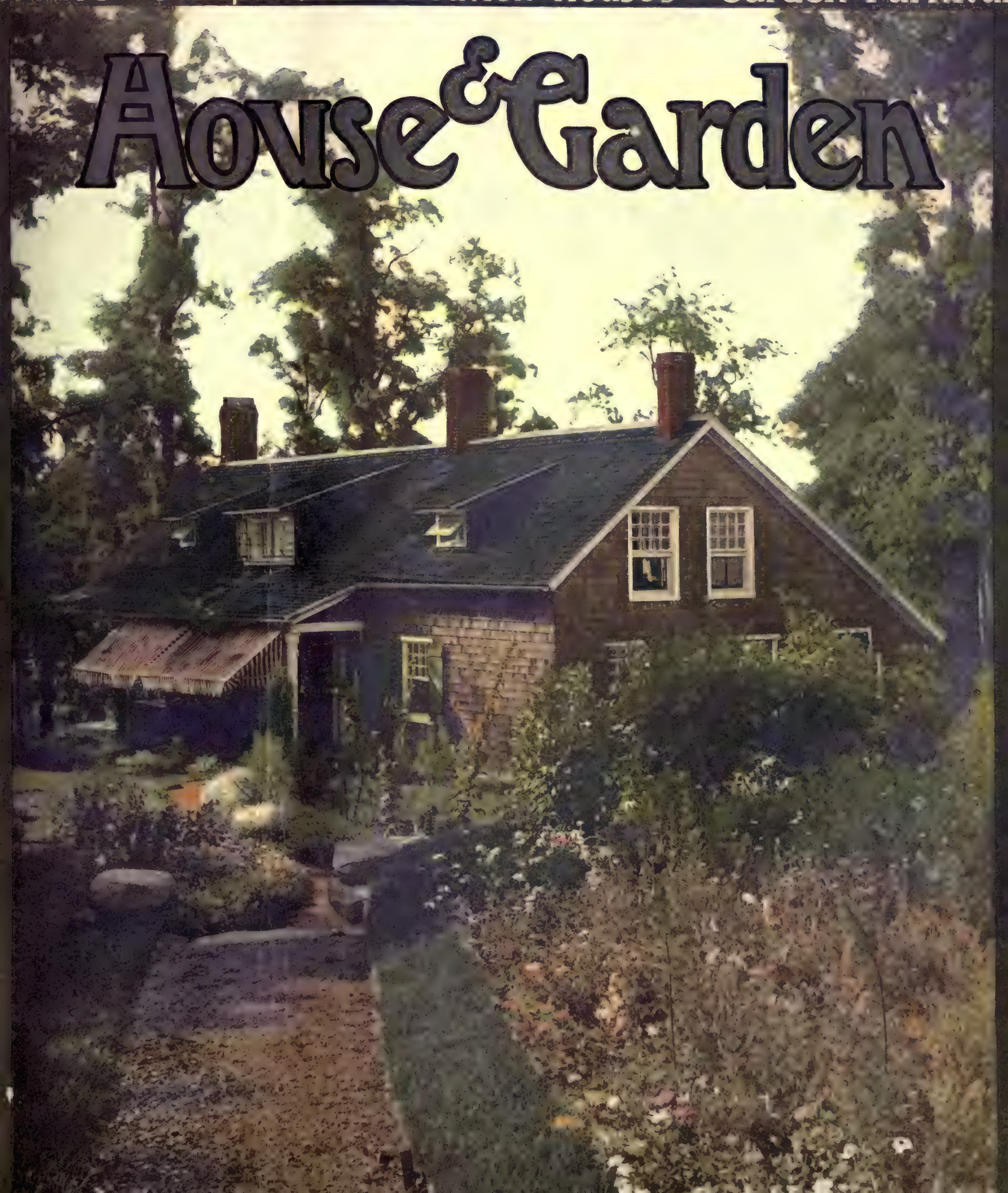
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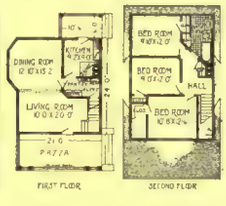
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The Poultry Yard

Conducted by E. K. Parkinson

The purpose of this department is to give advice to those interested in poultry. The manager will gladly answer any troublesome questions. Address "Poultry Department" and enclose a self-addressed envelope.



ONE of the pleasures of a house in the suburbs is the chance for one's own vegetables, flowers, eggs, etc., but, in planning for these, the uninitiated frequently slip up as to the space required for a garden and fowls. To provide eggs for a family of five, for instance, requires 30 hens, and the space needed to house and yard them (and to supply them with grown green food) should be about 30 by 100 feet, enclosed with a five-foot wire fence. Divide this space lengthwise, making the partition fence of boards for the first two feet from the ground, which will prevent the cocks from fighting. In the centre of each yard (equidistant from the ends) set a house 8 by 8 feet of the shed-roof type (portable ones of this size and variety may be had, ready to set up), and place the high side to the south. Divide each yard in half, using the house as a dividing line, thus giving each pen two yards 15 by 50 feet, and, while the birds are using one of them, dig up the other and sow to oats or rye. When the green sprouts are up three inches let in the hens; then treat the other yard in the same way. One sowing will last about a month or six weeks, and by that time the other seeding is ready for use. For winter, grow a few rows of wurtzels (Colossal Long Reds are a good variety), or sprouted oats, which latter may claim to be unexcelled for fowls in cold weather. The cost of this entire outfit, inclusive of fencing, posts, houses, hoppers, freight, express, poultry and labor, will be about $136. If you find it advisable to adopt the hopper method, provide each pen of 15 or 20 birds with two galvanized feed hoppers divided into four compartments, and either hang them from the rafter just within reach of the birds and out of reach of rats, or buy hoppers with covers. Fill one of these with ground oats, coarse wheat bran, middlings and corn-meal, keeping the feed unmixed. In the other hopper keep a constant supply of high-grade meat scraps. The automatic feeder should also be suspended from the rafters at a height from which the bait bar will be moved by the birds while scratching about for grains, which fall every time the bar-shaft is touched; fill this feeder from the following mixture: Wheat 60 pounds, cracked corn 60 pounds, heavy oats 40 pounds, barley 20 pounds, buckwheat 10 pounds, and kaffir corn 10 pounds.

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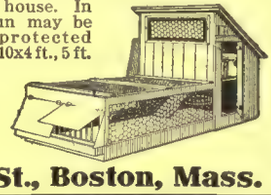
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SOUTHERN GARDEN DEPARTMENT

Conducted by JULIA LESTER DILLON

The writer of this department will gladly answer inquiries from Southern readers in regard to their garden problems. Please enclose a self-addressed, stamped envelope if a prompt personal reply is desired.

Under June's Sunny Skies

THE other day I asked one of my garden-making friends what she did in her garden in June, and, being somewhat of an epicure, after thinking hard for a minute or two, her answer was: "Why, I just eat figs." Writing this in the shade of my own fig-tree, where the shadows from the thick, green leaves fall soft and cool, and, remembering the delicious sweetness and delicate flavor of the figs that grow in our Southern gardens, I think I should like to follow her example. But this is too often what we do—sit with folded hands and enjoy the fragrance and beauty of the spring shrubs and flowers and fruits, and watch them quietly fade away, and then wonder why there are no blossoms later in the summer. It is largely upon the June work that the blossoming glory of the midsummer garden depends.

It is not yet too late to plant the heat-resisting seeds of some of the hardier annuals. Even though the zinnias, antirrhinums, ageratums, petunias, annual helianthus and delphiniums, as well as salvias and verbenas, are blooming all around us, if I had done no planting before this, I should go ahead now.

June is not the planting time in the South, nor is it a time when much transplanting can be done, yet, if the borders are to be kept full of color and fragrance, it is time to keep at work. It is the time when the bare spots must be filled in with plants from those places where there are green things growing in such abundance that they are too thick to thrive. It is easy enough to find among the groups of annual seedlings many that are small enough to move, and, by judiciously slipping them in here and there, it is possible to fill out the garden and cover all the bare spots. In doing this, careful planting is advisable, for, unless the seasons are very unpropitious, the chances are that most of the annual plantings will remain in bloom until mid-November, and possibly until December.

In doing this transplanting as tardily as this it is wise to choose a day after a rain, and to be sure to clip off some of the larger leaves. If this is done, and the plants are protected from the sun in the middle of the day for a few days, they will soon take root and grow vigorously.

Cannas and dahlias may be transplanted now. The dahlias allow of such severe pruning that they may be safely moved as late as July. Chrysanthemums from the nurseries, pot-grown, may also be put out, and colei, if small, at any time in the summer.

The roses that have bloomed with such tropical splendor in April will soon be ready to spend themselves again. They should be kept well watered, carefully worked, and the soil kept free from weeds, and early in the month these, and all the borders, may have a light dressing of fertilizer. What is called "Early Trucker," 7-5-5, is what I am using with good results. On the lawn, bone meal should be used.

The shrubs that have finished their season of bloom and make their blossoms on the growth of the previous year need to be pruned now. Among these, the Cydonias, Deutzias, Forsythias, *Philadelphus coronarius,* Kerria and the Spiræas —Van Houttei, *Prunifolia flore pleno,* and *Thunbergii*—are the most popular and best-known in this section.

If any borders are just now showing forth against a background of fences may I not plead with the owner to plant vines, and plant them in such quantity that all the uglinesses will be hidden? There are so many beautiful vines for the choosing, the annual vines, the Ipomæas, the climbing nasturtiums, the graceful and delicate cypress, the Cardinal Flower, the *Humulus Japonicus,* the hardy and quick-growing hop, the ornamental gourds, the Dolichos, or hyacinth bean, commonly known as Jack-bean vines, both in red and white, delicate and fragrant in flower, and making a thick screen, and many others, are valuable, beautiful and quick-climbing plants. That Jack-and-the-bean-stalk vine, the Kudzu, is of almost too rank a growth to be recommended, but the main point is, plant vines and cover up the fences; screen the ugly views while you can, and then when fall comes let us hope you will be enthusiastic enough to plant hardy climbers to keep them out of sight through all the months of the year.

Those gardens that have been planned and planted for a succession of bloom are just now rejoicing in the flaming masses of the Punicas, pomegranates, both of the flowering and fruiting kinds, than which there are no more showy and brilliant shrubs. The foliage is of bright, lustrous green, and even in winter the tracery of the branches is decorative. Growing next to one of these plants in my border is a white Nerium, oleander, and when the pomegranates put out in the early spring, their delicate, rosy-tipped leaf buds, with almost orange lights in the unfolding leaves, against the dark evergreen background of the oleanders, is a satisfying picture. In midsummer the flame-colored blossoms contrast wonderfully with the delicate purity of the masses of the oleanders.



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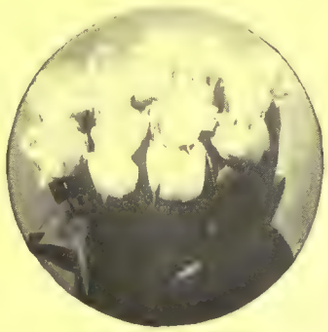
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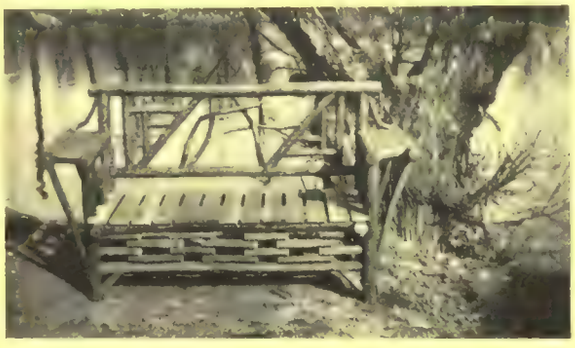
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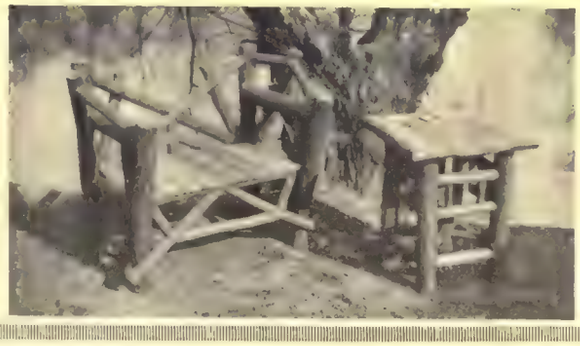
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Photograph by H. E. Angell

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WILLIAM A. VOLLMER,
Managing Editor

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SUMMER'S GARDEN INDOORS

In summer, when the garden is a mass of varicolored blossoms planted in a brilliant scheme, the house may also reflect its attractiveness. No less splendid than the garden bed is the bloom of the loom that glows in the upholstery of fresh cretonnes and chintzes, spreads its gayety along the rug border, or climbs, vine-like, up the curtain. And for the lattice of the garden there is the airy brightness of willow and wicker furniture to support the fabric flowers

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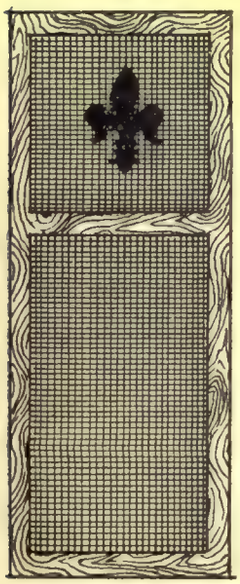


Cellar and foundation work is expensive. The summer house built on a steep slope may provide cool cellar space at little beyond the cost of excavation. A house of this plan provides opportunity for many windows and consequent cross draft

Suggestions for the Summer Home Builder

HINTS FOR THE PLAN AND CONSTRUCTION OF VACATION HOUSES—HOW TO HAVE A COOL HOUSE—WHAT MAY BE ACCOMPLISHED AT SMALL EXPENSE

BY EDWARD E. HOXIE



A type of sliding panel used in forming partitions

SUPPOSE that we have decided to build a summer cottage. We are immediately beset by innumerable queries. What shall be its plan? How will the rooms be grouped for greatest comfort? How many rooms shall there be? How much should the cottage cost? We shall arrive at no very definite conclusions unless we answer these questions systematically and with some understanding.

Let us state, then, at the outset that there is one great fundamental difference between a summer cottage and a winter house, and if we can but once get this point firmly fixed in our minds we shall have progressed a long way toward an understanding of the *raison d'etre* of the summer home. The winter house is built to keep out the cold and to shelter ourselves, our families and our friends from the blasts of winter. The summer cottage should be built and arranged in such a manner that it will accomplish just the opposite effect. Therefore, the plan should be different. That is the trouble with most summer cottages. One gets so accustomed to a city house that he forgets why the cottage exists. They arrange the rooms exactly alike in both. They build the house square, with kitchen, dining room, living-room and chambers arranged in a rectangular prism and put a square roof on top to keep off the rain. They build the walls solid, in many cases, from floor to ceiling, to prevent the circulation of air, and put in tight windows, just as few of them as possible, to keep out the cold. That is well enough, perhaps, for the winter house, but it is not the thing at all for the cottage.

In building a summer cottage, the one thing to remember is that its aim is to keep cool. Not to keep the air stagnant and shut out sunlight at all, but to let every wandering breath of summer from across the water or the fields back of the house have full access to the tired person. And the only things to keep out are the storms and the insects.



This stucco and timbered house is built on several radial axes, thus insuring a maximum of light and ventilation

In the city, perhaps, it is not possible to keep cool in summer by opening the windows. There are no fresh breezes to blow into the open doors. The sun beats down on city streets and shut-in spaces and reflects back into the close rooms. The dry dust and hot, reflected sunshine is all one can get.

But in the country it is different. The heat is tempered by the moving air. Not only that, but there is a healing balm in every whisper of the breeze. Air which comes across the water has a peculiar, dank, dewy, fresh coolness to it which is worth a barrel of nerve cure to the tired city man. And the breeze which blows across the meadows brings with it the mingled scents of the flowers, grass and opening fruit blossoms. It also brings the songs of the birds and bees. To shut it out is a crime against nature.

These are the facts which should determine the plan of the summer home. Let us not forget them. Let us build our summer cottage of whatever dimensions we choose, but build it like a trap to catch the breeze.

Now, the way to do this most effectively is not to group the rooms as compactly as possible or to build the walls tight and put in small windows. The better way is to spread the house out, make large window openings and leave out all interior partitions. But, what is to divide the rooms from each other? Well, that is not as difficult a question as might be supposed. In the first place, it is not necessary to have very definite partitions between the dining-room and living-room. A writing desk on one side and a bookcase on the other, with a passageway between them, for a door is one very good way of fixing it. A long screen almost across the room is another way. And a third way is to make the division with draperies. Any skillful housewife will think of other ways in which it may be done.



Heavy partitions between the rooms are inadvisable. A book-case, with intervening curtains, will allow greater circulation



The successful house will partake of the nature of its surroundings. This is made possible, as in this instance, by the use of a foundation of native stone

In the sleeping department we can have a dormitory arrangement with one room for the men of the family and another for the women, or we can have sliding screens made up of panel board to slide in grooves, and place them wherever necessary. This last is a very good arrangement. The number of rooms can depend on the requirements of the moment.

Such a house is adaptable to all conditions. There is never any occasion for saying to a guest that there is not room. Instead of that it is possible to promise a private room if necessary. The condition of flexibility is fulfilled and economy promoted at the same time.

To promote the circulation of a breeze is the next desideratum. And the way to do that is equally simple, but more likely to add somewhat to the cost. Because, in spreading a house out laterally, it is necessary to increase the foundation and the roof area without increasing the dimensions of the rooms. But in a summer house, where the foundations are not likely to be expensive, this increase is nominal and the advantages



One way to attain coolness is by insulation. There should be air space under the roof and an insulation between the roof and the upper chambers. Brick and hollow tile walls provide cool interiors

more than offset the increased cost of materials and construction.

A plan like the one shown on page 446 is almost perfect from this point of view. It is divided into three principal parts. In one wing of the building is located the kitchen, dining-room and bathroom. In the other wing are arranged the sleeping accommodations, and in the center between these two is the living-room, which is open to the air on all sides.

Some people would think it an improvement, perhaps, to have another window in the bathroom and another door leading onto the covered porch. In any case, it is well to carry the walls of this important room tight up to the roof and to provide a small dormer window in the roof to give plenty of light and fresh air. It would certainly be well to use only noiseless fixtures in the bathroom.



Perhaps one of the most effective plans is that of the inner court. It is a successfull way to have cross ventilation in all rooms

The porches of such a house are an important feature, because they provide shade for the windows in the afternoon. And the more windows there are the better. Windows do not cost more than solid wall, and if it is found that the space is needed for some other purpose it is not difficult to close the window up temporarily. But if there are not windows enough, the case is quite different. It is not easy to make them.

Now, as to the building of the sliding panels. The best way is to construct frames about three feet wide and as long as necessary to reach the ceiling. These frames are to be built of ⅞-inch by 3-inch pine and strongly put together. They should have two slight mouldings on one edge to lap over the next screen and cover the crack. The panels are then filled with panel board, which costs about 2½ cents per square foot and is light to handle.

To hold the panels in place a groove of some kind is necessary. This is best made from a strip of spruce board about 5 inches wide and ⅞ inch thick and a piece of "partition shoe." Tack the partition shoe onto the center of the spruce board and fasten the board to the ceiling of the room with brads or screw eyes. Fasten another piece like it to the floor vertically under the ceiling piece. Cut out a little place in the partition shoe to allow for slipping the panels in place, or the partition shoe can be omitted entirely at the top and brads used instead of it. When not in use remove the panels and the grooves and store them together in a corner. These partitions are not only light and easy to handle, but they can be made very decorative. Really

all that is needed to a cottage of this kind is the outside walls, floors and roof. And, since the walls are largely glazed openings, they can be built of storm sash to a great extent, and the cost still further reduced.

When it comes to protection for the winter, some sort of covering will be necessary, and this can be built of ⅞-inch sheathing put together with cleats and screws. It can be built in sections so as to be conveniently handled, and can be held in place by hooks and eyes at bottom and top.

Every shutter should be painted and numbered, and the number should be painted in the space where the shutter fits. Care should be used in making the shutters water tight at the top. It is sometimes thought better to hinge them along the upper edge and provide them with cords running over pulleys, so that they will answer for awnings and can be shut down on rainy days. This is an excellent way to fix them, because they are always in place and are very useful in shutting out the draughts of air which leak in around windows on stormy nights, and in preventing the rain from beating in.

These same stormy nights are likely to be cold and cheerless, particularly in spring and autumn. And no one will know just what to do. It is then that a fireplace is appreciated.

Every summer cottage should have a fireplace, and not only one, but as many as possible. They are not expensive to build, and are worth every cent of the cost. When a cold, stormy night does come, and shutters are closed down tight, the fire is started on the hearth, and there is room for everybody around it.

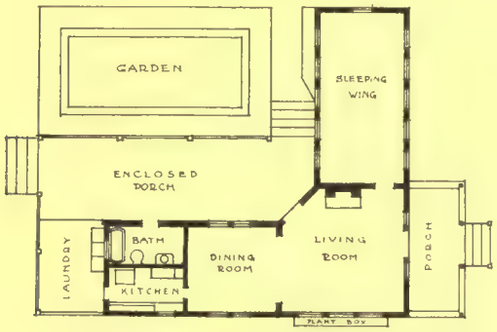
Of course, it is not true that one particular plan will suit everybody. The only point to remember is that the requirements are met by this type of house. If we can find a plan which provides large window openings and plenty of them, doorways so arranged as to give proper cross ventilation, and such accessories as will make a homelike, livable shelter in summer we shall have done well. And the more open we make the house, the larger and higher we make the rooms, and the more we cut out needless partitions, the more exactly shall we meet the needs of a summer home.

It frequently happens in deciding upon the best type of plan for individual cases that the site itself will be the governing factor, and it is very seldom that some type of plan cannot be found which is particularly suited to a given site. If the lot is situated in a depression behind sand dunes, or is surrounded by objects which obstruct the view, it might be wise to make some portion of the building extend up into the air sufficiently to get an outlook over the

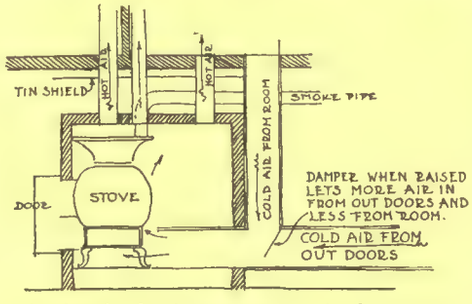
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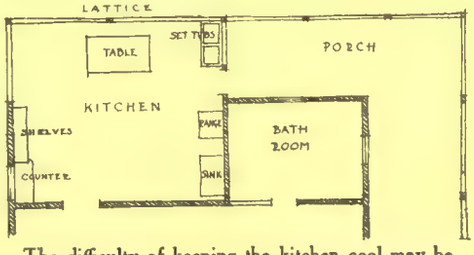
The secret of a comfortable outdoor living-room is to induce an effect of coolness by the green of the vines and flowers and the open sweep of the lawn



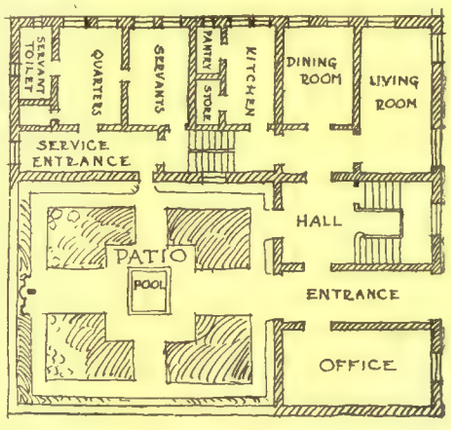
This plan is for a very informal vacation cottage. Its arrangement is for maximum coolness. Transportable partitions divide the sleeping porch into several wings



A plan for heating arrangement in the summer cottage. It does not require a cellar



The difficulty of keeping the kitchen cool may be solved by having part of its wall space partially walled in by lattice



An open grate arrangement that is a modified form of the Spanish patio



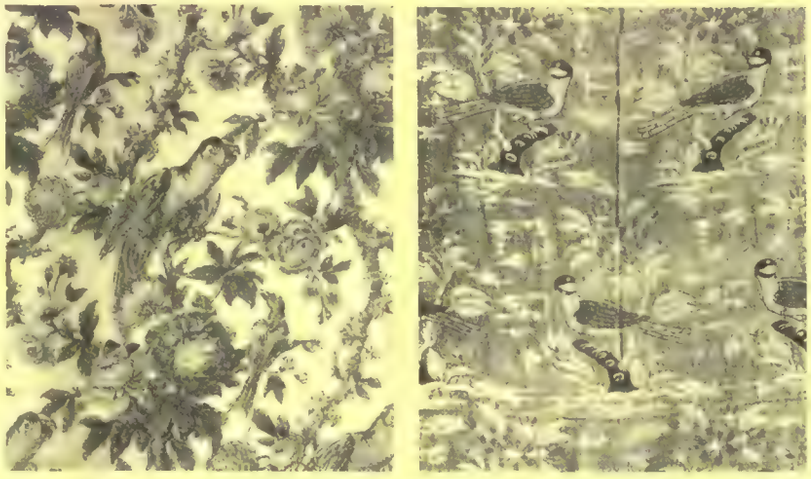
If you plan to build in the woods, the log cabin is a suitable and reasonable type

What You Should Know About Curtains

THE NEW SUMMER FABRICS AND DESIGNS—THE VARIOUS METHODS OF HANGING CURTAINS AND DRAPING WINDOWS—WHERE THEY APPLY—HINTS FOR MAKING CURTAINS

BY LUCY ABBOT THROOP

IN nearly every well-regulated family the curtain problem crops up once in so often and has to be struggled with and solved to the satisfaction of everyone, and the improvement of the appearance of the house. Curtains are necessities without a doubt, for they soften the hard edges of a room, as good manners smooth the rough places of life.



Two-bird motives in chintz, at the left an English glazed fabric in pictorial treatment; at the right a conventionalized design

The part of the country in which we live has something to do with the kind of hangings we choose, for where the sun shines cheerfully all the year round heavy curtains would be oppressive, but here in New York, where we have our ups and downs of climate, very up and very down, we can use all kinds. One has also to consider the kind of house it is, the amount of light, the style of furniture and the sum one wishes to spend. One point I wish to make especially emphatic: Do not take down the curtains in the summer and have staring, blank windows all through the hot weather. If the winter curtains are too heavy or will not stand the wear and tear of constantly open windows, it is a good plan to have some simple net and chintz ones to take their places, and one will have the comfort of shaded light and the pleasure of seeing them softly blow in the breeze, which will make everyone feel a bit cooler. A curtainless window on a hot day is a horror!

The design of the curtains must be regulated by the room in which they are and by the shape of the window. A formal drawing-room should have a different method from a comfortable, cozy living-room, but a living-room's curtains have much in common with the other rooms of a house.

The average window should have net curtains next the glass, with side curtains and a valance. They are usually made so they can be drawn at night, and have either a shaped or gathered valance to carry the color harmony and balance across the top of the window. Windows in groups of two or three can be treated as one window in regard to side curtains, with a valance extending the whole width. This makes a composition or unit of the windows and adds to the charm of the room, especially when there is a window seat with cushions piled invitingly upon it. Each window should have a pair of net curtains next the glass. Bay windows may be treated in this manner. A room appears broader if so treated, whereas a pair of side curtains, if hung at



Do not leave the windows bare in summer; half of the charm of the country home and most of its colors may be in the curtains. If you do not have one of the types suitable for all-year use, at least put up some of the light net fabrics. Here an insertion of cretonne adds the requisite color without loss of light

each window of a group makes the apartment feel constricted. Sometimes, for the sake of effect and to make a too low room seem higher, it may be necessary to hang a piece of chintz between each window, as well as the ends. The length of the curtains must be decided by the proportion of the room. Curtains reaching to the floor will make a room seem higher and also more dignified. They may also reach to the exact sill or to the bottom of the casing, whichever one wishes. The depth of the valance has also to be decided by the proportion of the room. They vary from six inches to twenty-four or more, as is necessary. From twelve to eighteen inches is a fair average of safety on which to calculate, but if they are too short they look skimpy, and if they are too long they look heavy. The pattern should be well placed in a valance, so as to bring one of the chief units of the design in the center.

Side curtains are usually made so they can be drawn at night, and are arranged with traverse rings and cords and pulleys, and should run easily, and a box cornice is generally used to hold the valance. Draw curtains and an open fire give an indescribable air of homelikeness and cheer. In the daytime they are pulled back and allowed either to hang straight or are held with a band made of the curtain stuff. They should be at least once and a half the width of the window. Curtains should always be fastened at the lower outside corner to prevent their blowing into the room when the window is open. If one does not care to have the curtains drawn together they can be made of single strips of material with French headings and gathered into a space a little broader than the casing, or they may simply be run on a rod through a heading. The valance can connect the two sides or be run on a separate rod and extend the full width of the window. If the window is so narrow that all the light possible is needed, one can have the rods wider than the casing so the curtains will really hang over the wall and casing and not obscure any light.



When the windows are grouped, casements having side curtains at either side of the embrasure instead of each window, and use one valance. Such a method makes the room appear less crowded. The same chintz is used in the pillows and upholstery

Simplicity of treatment should be the keynote of all draperies, for it gives a sense of restfulness to a room and helps to keep the curtains in their proper relation to the rest of the room. Curtains may be of any gay and bright or sombre material, but if the color scheme is successfully thought out they will form a part of the background, making a perfect whole with the walls for the furnishings. The curtains, the walls, the furniture, the rugs, are all closely related, and a room is made or marred by the failure of one of them to keep its proper place in regard to the others. I do not mean to imply that the walls and curtains should be the same color (unless one wishes it), but there must be a reason for the color chosen, and the color values must be right. If the walls are paneled and the room furnished with Georgian furniture it would be fatal to have one of the new, and often hideous, futurist designs used for the curtains. If the walls and furniture are heavy and dark, a Louis XV design would be all out of scale and a shocking contrast. It seems absurd to have to say anything so obvious, but unfortunately there are always people who, with the best intentions in the world, buy things because they are new, or simply because they like them, with never a thought of how they will combine with their other possessions.

A very attractive method of having curtains made is to have them in upper and lower sections. The two lower sections reach from the top of the sash to the sill, and the two upper sections just cover the rod of the lower ones. The upper sections can be drawn together and the lower ones pushed back, and the effect is charming. This method has a simple air of informality about it which makes it appropriate for country houses and some rooms in town houses. Thin silks, nets, casement cloth and other attractive lightweight materials can be used, and also chintz of not too large a design.

Casement windows should have the side curtains and net curtains on the frame work so the windows can be swung without danger of injury to the fabric. They should hang just to the sill and have a narrow, gathered valance.

Materials for curtains grow more and more beautiful each year. The chintzes and linens are wonderful in design and color, and come in both wide and narrow widths and all prices. One particular virtue of some of the materials is the fact that they are guaranteed against fading. Such goods are of vegetable fiber—either cotton or linen—and are dyed in the yarn. To-day all grades and patterns are procurable in such fabrics, from the simple cottage material to hangings for the elaborate period room. Some desire special mention here: There is the double-faced cloth with the lining woven in one piece with the facing. These goods may be had in duplication of famous European originals. Those French draperies which were made of alternating strips of brocaded damask, and tapestry, or damask and lace appliqué, are to be had in this form, but all woven in one piece. There are beautiful changeable Armures, daintily colored casement cloth, poplins and monk's cloth, all made to stand the sun. As to patterns, stripes and checker blocks have been produced in delightful profusion, and are very effective.

Chintzes make lovely, cool-looking rooms, and have a charm that no other fabric gives. They are suitable for all rooms in a house, and seem to bring a breath of freshness and cheerfulness with them, and, to my mind, are the monarchs of the country house, and a large part of the town-house curtain question. I use the word "chintz" for the sake of brevity to cover the whole field of cotton and linen materials which are manufactured for

(*Continued on page* 504)

A Comfortable Camp in the Woods

"HUKWEEM," A VACATION HOME IN THE ADIRONDACKS WHERE THE OUT-OF-DOOR SPIRIT IS MAINTAINED BUT THE NECESSARY SANITARY REQUIREMENTS AND BODILY CONVENIENCES ARE NOT SACRIFICED

BY JAMES BURLY



The living-room has a commodious fireplace built out of rough stones and capable of holding logs five feet long

IN the days when the great hotels of Saratoga and Long Branch were full and overflowing during the playtime of the summer season a modest cottage at Newport or a hunter's camp in the Adirondacks drew a few devotees of the simple life. Since that time great changes in social life and customs in America have been brought about, and these changes can be illustrated in no more striking manner than in the architectural evolution of the Newport cottage and the Adirondack camp. Indeed, the Newport cottage has grown out of its original name, and the word villa is now more appropriately applied to the marble palace and turreted castle that have taken the place of the modest cottage of a generation or two ago.

To a less degree perhaps have the changed social requirements affected the Adirondack camp; it has preserved its cognomen at least, but it is certain that the simple life in the Adirondacks in these days calls for more elaborate domestic facilities than the name camp suggests. The Adirondacks have been properly called a great playground, and to the sojourner there, life is indeed play. He plays at canoeing, at fishing and hunting, at tramping and camping, for, with automobiles, trolley cars, motor boats and hotels, all of which have invaded the north woods, a certain amount of pretense or make-believe is necessary to attain these primitive sports. Camping being no longer the simple mode of life it used to be, to provide all the conveniences of a modern country house and still maintain some suggestion of the hunter's camp is the architectural problem that faces the designer. In most cases where design has been considered at all, the modern



Across the front of the house there is the luxury of an exceptionally wide breeze-enticing piazza, furnished in a sturdy yet comfortable style



The ancestry of the Adirondack Camp in the pioneer's cabin was borne in mind, but enough freedom was used to allow the adaptation of materials and construction of more permanent and elaborate structure



The bedroom hangings are of chintz, with a bright pattern, and the walls have a coat of water-color on rough plaster



The stained woodwork, the unfinished trim and the direct lines of the furniture lend spontaneity to the whole interior scheme. Hukweem is the Indian word for loon and this bird was used throughout as a decorative symbol

Adirondack camp bears some resemblance to the original species, the hunter's or lumberman's camp. The relationship may be expressed in the materials of construction, if not in form, as, for instance, in the use of logs for walls, more or less after the primitive manner of pioneer days. Sometimes the form suggests the original prototype, but always an attempt is made to follow some architectural form indigenous to the mountains. The Swiss chalet has been successfully adopted, and in one notable instance Japanese workmen and artists were imported to build a real Japanese structure in which wood and exposed structural articulation is characteristic, and seems particularly appropriate to the woods, if not the United States of America.

The camp here illustrated is a very excellent example of a modern Adirondack camp, not of the largest or most elaborate type, but having all the equipment and convenience of modern living and at the same time preserving most of the characteristics of the woods and admirably fitting its surroundings.

Hukweem is situated on Loon Lake, Franklin county, New York, and is the summer home of Mr. and Mrs. Wm. Curtis Demorest, of New York. It is occupied four or five months in the year, and is also used, as a rule, for a short period every winter for the enjoyment of the winter sports which are becoming more and more popular pastimes of the Adirondacks. The building is, therefore, well built for winter use, and is heated with a combination hot-air and hot-water heater, and has been found thoroughly comfortable at 24 below zero.

The question of water is an important one in building a camp, in order to secure both a pure and a constant supply.

In this instance the water is led to the spring located nearly a mile from the camp, at an elevation of nearly 100 feet above it. The pipe is laid not more than 12 inches under ground, and, in order to prevent freezing, a continual flow of water is maintained. During the winter, when the camp is not occupied, the pipes in the building are drained off, and through a by-pass the supply from the spring flows directly into a waste pipe emptying into the lake. A continual flow is thus maintained. When the camp is occupied during the winter the supply is run through to a tank in the attic, with an overflow waste, and again continual flow is maintained. During the summer the supply pipes in the camp are connected through a second by-pass directly with the supply from the spring, thus conserving the water supply and assuring cold water from the spring without its having to pass through the attic tank. The arrangement of valves and by-pass is a little complicated, but has worked well and no trouble has been experienced from freezing pipes or failing water supply, a matter most essential to comfort.

It was the aim of the builder to have the house conform as much as possible to its natural surroundings; to make it, as it



The proper treatment of the grounds was an important consideration, and here the idea was to preserve as far as possible the natural attractions of the place. At the same time all the units of the ordinary garden were utilized



In this neighboring camp the same decorative scheme was employed. Here the brick fireplace, with its irregular lines, adds a striking note



The furniture and fittings at Hukweem were left with the rough tool marks on them and were constructed entirely of native material from the estate

were, a part of them. With this end in view, indigenous materials were used as far as was practicable.

The building is of the usual frame construction, with 2-inch by 6-inch studding, ⅞-inch sheathing and shingle roof, and is plastered inside throughout with rough sand finish. The first-story exterior is covered with red cedar slabs, and this material was selected for the reason that it is free from the attack of borers and other insects which infest spruce and other native Adirondack woods, and very quickly destroy them. Red cedar is not native in the Adirondacks or far north of Albany, and the cedar used here was shipped from the neighborhood of Albany. It seldom attains a large size, and a 10-inch diameter is rare, the average being about 7 inches. The logs were split in halves longitudinally, and a full half log used in order to get as wide a face and projection as possible, as it was desirable to show a wide face in the wall, for reasons of architectural proportion.

The gables and second story are of half timber and stucco. All the exposed timbers are of undressed spruce, stained a dark, weathered brown. The roof is stained moss green.

Across the front extends an exceptionally wide piazza (18 feet), the floor being on a level and continuous with the living-room floor. A feature is the very wide (20 feet) door opening between the piazza and living room, closed by four sliding doors, which in summer are kept wide open except in damp, cold weather. This feature more than any other shows the relationship of this camp in form with the original species, which consisted of a "lean-to," open on the side facing the south, and camp-fire. The living room of Hukeem is essentially enclosed on three sides only and entirely open on the fourth, so that, except in spaciousness and furnishing, it is in every way like its primitive ancestor. Even when closed, the large doors, being entirely of glass, give an outdoor effect to the living room that is delightful and "campy." Of course, a camp without a camp-fire is like Hamlet with Hamlet left out, and, besides the outdoor camp-fire, which may be built outside in front of the big doors, a very commodious fireplace is built in the living room, where logs 5 feet long can be burned on the stone hearth.



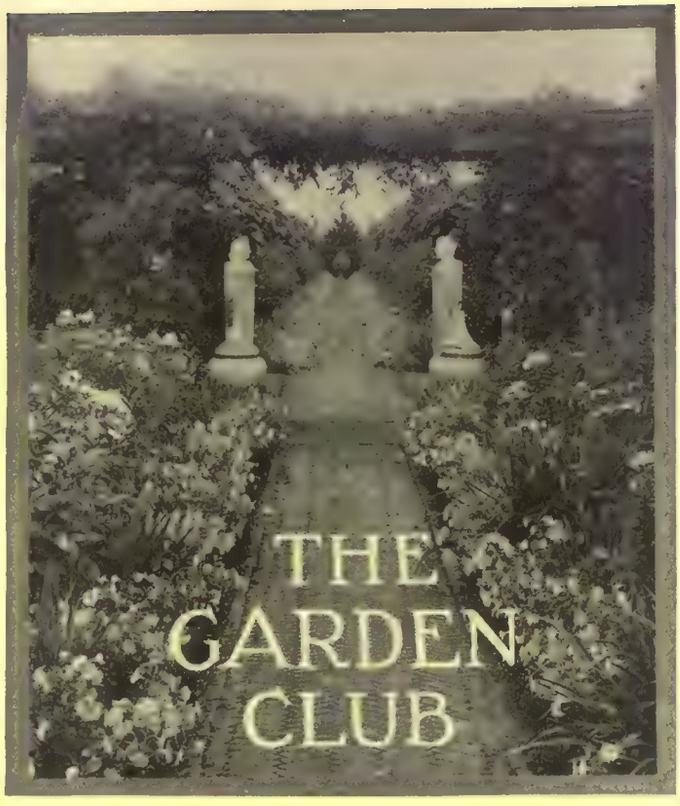
Here one has a feeling that the building actually belongs to and is a part of its surroundings. The interstices in the timberwork were filled with moss and lichens

As in the exterior of the camp, a feeling of naturalness and spontaneity was sought for, so in the matter of interior furnishings and decoratives a similar effect was desired..

The second floor, containing bedrooms, extends over only part of the living room, and the part around the fireplace extends to the roof and is surrounded by a balcony. The fireplace and chimney are built of rough, weathered field stone, the joints being filled with lichen each spring, which lasts the whole season, giving a most pleasant color effect to the stonework. Smooth, hardwood floors were laid throughout, but all the trim and other interior woodwork is of rough, undressed spruce,

(*Continued on page* 480)







EDITOR'S NOTE: *The garden club is a great factor in neighborhood betterment. Here is a true story of the work of a certain such club and its accomplishments taken from the diary of one of its members. What this club actually did should be a stimulus to all who love gardens and a guide to the ways and means of improving our towns and villages. These chapters began in the February issue, when the organization of the Club was discussed. Each installment shows how the program of activities was followed out.*

MR. Parke Gladden has joined the Club! Isn't that great? And from "Stone Acres" are to come the plants for the neighborhood garden that we are starting on the vacant lots that slope down back of the jail—a location that we selected in preference to several others because it *was* the jail, and because the section is desperately in need of having something started other than a fight or a wife-beating. A stout fence is to go around the place first of all—we are not so naive as to expect regards for flowers or for anything in such a neighborhood without imposing armament—set up by a local concern who make wrought-iron fences and who loaned this one. It is to be put in place in sections, and can be taken down when they want it or we are through with it; and a neat little sign is to go on it telling the world that they make it, and put it there and maintain it.

I am so glad that we are beginning, as a club, to do something of this sort—for if a garden club does not, who in the world ever will? It meant a lot of fussing to get it going, of course, and no end of running to this one and seeing that one; but once we got under way, the committee had no real hindrances, and the club is hoping to do more of this sort of thing in various sections, if this works out well.

We shall have shows and displays there, and admit visitors—neighborhood denizens!—certain days, under strong but absolutely unobtrusive guard; and I can see in it the richest possibilities for good. A few quick-growing annuals are being sown now, but much of the entire space is provided for by our new member—and he undertakes to see the things into the ground at once, without loss. So that we are actually to have a park, sprung full fledged from the brow of the hill, with shrubbery suitably disposed and plants in flower, without any tiresome waiting. And, of course, the thing will be even more effective this way than through the slower processes of Nature, for the change will be most striking and the full force of the contrast will show—which is a good thing all around.

This is rose-show month. And a wonderful talk on roses we had at our meeting at Miss Lucy's, given by one of the greatest rose men in the country, whom Mr. Gladden was instrumental in getting. Of course his lecture was paid for; and a larger fee I am sure than the club could think of expending must be his, but perhaps he came partly from friendship, or perhaps the master of "Stone Acres" made up the difference.

He unmistakably loves the rose, this great rosarian, with a single-hearted love, indeed; and he prefaced the practical part of his talk with a dip into the past that fairly took my breath away—for what a wonderful past it is that this flower has! How many ages have men loved it—and how many different kinds of men have loved it! How carefully has it been tended and watched over, century by century, for uncountable centuries; what joy has it not brought to men's hearts as it has responded, century by century, to this watchful care! Of all the world of flowers, tradition names it the first to have been brought in from the wilderness and known and grown as a "double" flower. And yet men to-day are cultivating and tending and watching as assiduously over just this same flower as they have ever done. Really, is it not wonderful?

I found out that I am quite mediæval about roses in one way; they must be sweet smelling—oh, heavenly sweet!—to satisfy my taste. And that is what all the rose lovers of ancient time—and rhyme— insisted upon.

"The savour of the roses swote
Me smote right to the herte rote,"

sang Chaucer—at least I think it was Chaucer—and that is exactly what the savour of a "proper" rose to-day will do. Indeed, there is nothing so disappointing in all the world out of doors—I'm quoting the rose man, please remember!—as a rose that does *not* "to the root of the heart" reach with its glorious odor.

It rather pleased me to learn that, so far at least, very little is

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The main living-room from the studio. There is great window space in the opposite wall providing for much sunlight, but the room is so spacious and the ventilation so good that it does not become hot

A Seaside House that Fits Its Site

HI-LE-RO, A MAN'S CONCEPTION OF A VACATION HOME—HOW HE ACHIEVED WARM WEATHER COMFORT AND WHAT ORIGINAL IDEAS HE HAD IN FITTING THE HOUSE TO THE LANDSCAPE—SOME VALUABLE HINTS FOR FURNISHING

BY ELOISE ROORBACH

Photographs by the Author

A DEEPLY rooted theory of mine (deduced from much experience) is that every house needs the help of a woman in its designing. Men are prone to overlook the matter of closets, to put hinges on the wrong side of doors, drop the electric-light lamps just out of reach of anyone not on stilts, to put the pantry and cool closets on the sunny side of the house, to leave no wall space for the beds; in fact, to overlook cosiness, convenience and beauty, while focusing all their attention upon driving in enough nails to make it withstand the tumbling about of earthquakes. I have always feared the result of man's unrestrained use of color—it is commonly so weirdly original. I would never dream of permitting mere man to construct the face of any stone chimney of mine, for, though they have a skill in making them draw well, they generally make the face of it so large that the room seems to be but a fungus growth upon it!



A bare, rugged promontory is the site for Hi-le-ro. Its owner has built it of stucco so treated that the house appears to have sprung from the cliffs. The planting, too, is restricted to the appropriately colored shrubs native to the point

I have recently seen a house designed, built, furnished and cared for by a man, a self-sufficient man scorning the advice or counsel of mere woman. Since it is well to admit one's limitations and errors, I herewith declare that the house is both original and beautiful, a rare combination of virtues in these days of freak houses. It forces an apology from me. With the admission of underrating man's ability in home making, I agree to describe it in full, for it has several features that it would be well for women to know about.

A certain man of California decided to build a home. It must be as much beyond reproach as the bluff just above La Jolla, upon which he intended to place it. The bluff was an unusually beautiful one, so the house must be an unusually beautiful house. He began to read all the magazines on home making. He read about adapting the house to its environment. About hills not being leveled, nor hollows filled. About the virtues of permanence. About choosing the materials nearest at hand. About color schemes, light, air, sunshine, closets, convenience, cosiness, domesticity. Even absorbed a few points about the treatment of servants. Besides possessing himself of such excellent advices, he had several original ideas of his own awaiting an opportunity of airing. In the most delightfully naive, yet thoroughly man-like, way, he has managed to embody in the most literal manner everything he ever read!



At the opposite end of the main room is the snuggery, a brick-paved den and studio. When it grows chill this retreat is more comfortable than the large room



The furniture appears to belong to this house alone. The sturdy dining-room chairs are covered with hide upon which the hair remains. This is but another touch which shows the careful carrying out of a single scheme of fitness

The ground must not be leveled. It was as uneven as the waves of the sea. Huge boulders and small stones were outcropping in every direction. He selected as smooth a place as possible, and ordered the men to match the heap of reddish rocks into a foundation. Of course, the top of the foundation is level, but the bottom of it fits into the ground as if it had grown there. The inside of the foundation was a mixture of upstanding boulders and hollows. The rooms were built to fit them! Every room has a floor on a different level. First is the patio (floored with triple, squared brick especially made) a few feet above the ground. The large reception room is up a step or so. From this room one steps up to the fireplace "snuggery." The dining room is reached by mounting four or five steps. The kitchen is down a few inches around the corner. The guests' rooms are reached from a balcony that runs across one end of this large reception room. The bath room is down a step from this level. His bedroom is up a step or so. An outdoor sleeping porch must be stepped down into. There is a little writing room under the main stairway.

This sounds confusing and not pleasant, but in reality it is most delightful. It gives the house the atmosphere of an old baronial castle. There is a fine sense of space. Secret doors and lost rooms seem all about. In whatever room one is, the vista is down into or up into the next room or set of rooms. This gives a peculiarly alive sense of individuality. Large windows let in a joyous amount of light and sun—he is not miserly inclined to keep his rugs from fading a little. They also let in a vast sight of the blue of the sea and of the sky. The whole effect is wonderfully bright, winning and cheery.

The large living-room is a strong feature of this seaside house, and is worth adopting by others who wish not only to give the effect of coolness, but really to accomplish it. With a double-storied living-room there is a sweep and circulation of air constantly stirring. In this case the windows opening from bedrooms onto the balconies, and even in the walls of the living-room, practically allow cross drafts from whatever section the



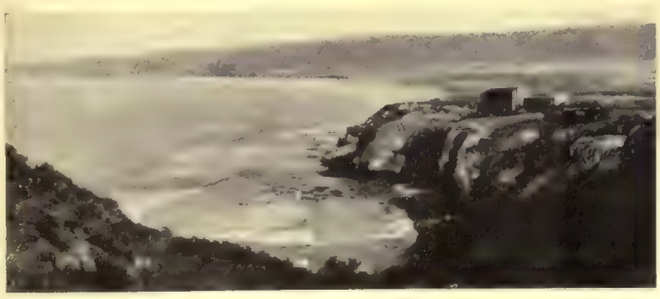
From the balcony one enters the rooms apportioned to the guests. The little window in the wall opens out from the large master's bedroom. The many openings provide a perfect cross-ventilation



Owing to the irregular level of the foundation the ground floor rooms have a pleasing irregularity. One climbs four steps to the dining-room. Note the appropriate built-in sideboard

wind may blow. The roof, however, has a proper air space between the ceiling itself, and is insulated to the right degree. Such double-storied living-rooms are attractive anywhere, but their greatest fitness is in the summer home of this type. Their one drawback is that they look bare and dreary. In this house the brilliant colors of the native rugs, the warm richness of the woodwork and the beamed treatment of the ceiling does away with this objection.

The outside of the house is a masterpiece of harmonious coloring. After the plaster (it is of hollow tile and plaster) had dried it was altogether "unlike its surroundings." The magazines advised against this. It glared painfully. After a few meditative cigars he evolved a way to help this. He scraped some clay from the ground and soaked it in salt water (so that it would eventually dry with the glisten of the salty cliffs). He burned the thorns from the large-leaved cactus (*opuntias*) that grow in the hollows of the cliffs, then steeped them a bit in fresh water to get out the transparent glue. This sticky substance he mixed with the salt-soaked clay to the consistency of paint, and painted the whole surface of the house with it. The result is that the house stands as if in one piece with the ground. It rests upon the bluff as if heaped there by the elements when they modeled the shores. As softly mellow as if the ages had made it so. Of course, the man who could make so artistic a rambling, properly toned house, built the chimney of whatever stones he could find all about, heaping them together without the dark cut of the trowel showing painfully.



His planting is also excellent. He has "tied the house to the ground" with native plants, pines, creeping cypress, beach asters, marigolds and sand verbenas. The plants other than those of native growth are the kind all men choose, bright, cheery things that look at home against the mellow cream of the house. There is a little kitchen garden to add the touch of "domesticity," planted in neat rows, out by the kitchen door, in the jog made by the servants' suite. Yes, the servant has a suite of his own, a bedroom, bath and sitting room with large windows, giving him the same view enjoyed by the master of the house. This is very much appreciated, you may be sure, by the soft-treading Jap who served us a meal fit for a queen. Not a speck of dust dare show itself, for it would be instantly whisked out again. The Jap's sitting room was a pleasant one. A table covered with magazines and papers,

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Quality Crops

VI.—MELONS, SQUASHES AND CUCUMBERS

BY D. R. EDSON

PROBABLY no delicacy of the garden offers more than the muskmelon. Other vine crops, too, cucumbers, watermelons and summer and winter squashes, are all very desirable, and, although these things are easier to grow than good melons or canteloupe, complete failure is often experienced.

However, some of the common pitfalls in growing vine crops can be successfully guarded against, and there are conditions favorable to growth which usually can be given if one knows what they are. The curcubits, while they differ from one another in some ways, have many points in common, and as a group are quite distinct, not only in their habits of growth, but in their requirements, from the other vegetables of the garden. They are all very warm blooded and more exacting as far as conditions of warmth are concerned than any of the other things, with the possible exception of peppers and egg-plants. In addition to this, for proper development they require a great amount of moisture. Hot weather and moisture are not usually both to be had at the same time of the season. This constitutes at the outset one of the difficulties of growing the curcubits. It is a difficult problem, because steps to combat it must be taken, not when the lack of moisture begins to make itself felt a month or so after planting, but weeks, or even a year, before. Plenty of humus in the soil is necessary for most garden crops. It is doubly so for the vine crops. To supply this, the professional grower depends upon a green or stubble crop plowed under, or upon a generous dressing of rather light manure. So, if possible, pick out a spot in your garden where sod was plowed under a year ago, or where in the fall or winter you had some catch crop, such as buckwheat or rye, growing after an early crop had been taken off. Whether you use something of this sort or manure for your humus, it is best to have the ground plowed or spaded up quite early in the spring, so that this vegetable matter will already have begun to decompose by the time you plant the seeds. After the ground is turned up it should be harrowed or raked over at once until the surface is fine and smooth, in order that all the moisture may be saved by the dust mulch created on the surface.

The various vine plants are alike also in many of their troubles. They are particularly subject to the attack of several kinds of bugs and beetles, especially during the early stages. For these troubles, also, you must make preparations ahead. Therefore, we might as well talk them over right now before we discuss planting seeds. The two most pernicious are the striped cucumber beetle and the squash bug. The latter is likely to confine his attention to the several sorts of squashes and pumpkins. There are a number of things which are apparently very distasteful to these bugs which can be used on the plants and about the hill. One of the best of these is tobacco dust. (But get the genuine article.) Where but a few hills are grown, bone flour, land plaster or fine, sifted, dry, wood ashes will answer the purpose. Any of the above are good for using while the plants are quite small—the time when the bugs are most likely to do serious injury.

As the plants get larger, if one has a compressed-air sprayer—as every gardener should have—it will take but a few minutes, once in ten days, to go over the vines with Bordeaux-arsenate of lead mixture or equivalent preparation. Sometimes the melon lice put in an appearance, and in case they do, spray thoroughly with kerosene emulsion *at once*. Also pull up and destroy carefully any plants which may have become badly infested. Kerosene emulsion will also be effective against the young squash bugs or "nymphs," which do their injury by sucking—but it must be applied *thoroughly* to the under side of the leaves.

A statement which one frequently sees in connection with the culture of melons and squashes is that the soil for them should be "very rich." This is quite true, but very indefinite. The condition, the availability of the plant food in the soil, makes the difference rather than the amount of it. All these plants are very rapid growers when they are making normal development, and need their food in a hurry. Only available forms should be used. If manure, it should be particularly fine, old and well rotted up. If commercial fertilizers are used, the nitrogen should be in an immediately available form. A mistake frequently made is to put all the manure or fertilizer directly in the hills where the seeds are to be planted. It is much better to broadcast the greater part of it. Then a handful or so of some effective but safe fertilizer, such as a mixture of cotton-seed meal and bone flour, can be mixed in the bottom of each hill before planting, to give the plants a strong start.

There are two methods of planting. Usually the seed is sown directly where the plants are to grow outside. But by using strawberry boxes or paper pots, filled with a light, rich compost, they may be sown under glass three or four weeks before all danger of the last late frosts will be past, and then set in the hills or rows prepared for them. The advantages of this plan are several. The crop is forwarded two or three weeks, and, being well started when set out, the plants are much better suited to withstand the attacks of insects if these appear. All of the curcubits are difficult to transplant, and, until the advent of the square paper pots and dirt bands, which may now be bought so cheaply, there was no easy method of starting them. With these simple contrivances it is a simple matter. They pack together tightly, so that they do not dry out as quickly as clay pots, and there is much more room for root development.

Where the seed is sown outside no definite rules can be followed with any assurance of success. In general, they should be planted as soon as warm weather is assured—when the oak trees are well out in leaf. But a few cold, rainy days will be pretty sure to rot the seed, especially if it is covered a half inch or so deep; and, on the other hand, if a period of very dry or windy weather is encountered it is pretty sure to dry out if it is not planted half an inch or more deep. The loss of the seed doesn't amount to much, as it costs next to nothing; but the delay and the uncertainty of having any better success with the second sowing are serious. Here is a method which it will pay to use, especially with muskmelons and cucumbers. Squashes and watermelons are easier to get up. Take half the seeds you expect to plant, allowing ten to fifteen seeds for each hill, and soak over night in lukewarm water. Drain the water off the next morning, but keep the seed for a

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A Small Country House of Ingenious Planning

AN ANSWER TO THE FURNACE AND CELLAR PROBLEM IN VACATION HOMES—UTILIZING SPACE TO BEST ADVANTAGE—A MODEL HOUSE FOR CONVENIENCE AND COMFORT WHERE SERVANTS ARE AT A PREMIUM

BY CORA PARKER

Photographs by the Author

THE first movement on the part of the American home-maker toward the return to a simple life manifested itself by a craze for bungalows. And to-day these low, rambling houses, with their amazing architectural varieties, are dotted over the land from the pine woods of Maine to the orange groves of California. Undoubtedly, the well-appointed bungalow has much to commend it to the housewife who would free herself from the bondage of untrained servants and elaborate houses, but it has its drawbacks as well. It is compact and convenient, and best of all, it has no stairway; but, on the other hand, it is more expensive to build and more difficult to heat than the small house of equal size, and the necessity of sleeping on the ground floor is a serious drawback in many localities.

These facts and others led us, when the building craze came upon us, to decide in favor of the small house, and we set about making plans that should combine all the conveniences of a bungalow with the added advantages of a second story for at least two sleeping rooms and bath. The elimination of the stairway was the one impossible thing, and this we atoned for by building steps of only six-inch rise and ten and a half-inch tread, which proportions will cause the least appreciable fatigue for a person of medium height.



A small bookcase separates the dining-alcove from the living-room. A curtain can be pulled across to assure privacy

The building material chosen was hollow tile, with white, rough finish and brown trim. Instead of the usual veranda we built a brick-paved pergola across the front, which seemed better to unite the house with the garden, which latter occupies about half the fifty feet of lawn, and extends around three sides of the bungalow. The garden extends across the entire lot of sixty feet, and is enclosed by a hedge of perennial roses.



The building material chosen was hollow tile, with a white rough finish and brown trim. The brick-paved pergola was to tie the house to its garden

From the pergola a Dutch door, with its brass knocker, opens directly into the living room. At one side of the door is a bay window ten feet long, in which has been placed a coil of radiators sixteen inches high. A window seat covers this in summer. Opposite the bay window is the brick mantel seven feet wide, where burning logs not only bring cheer on dull days and chilly evenings, but making the living-room comfortable when the thermometer stands at twenty above zero outside and no fire in the furnace. The fireplace was built under the direct supervision of the owner, and is three feet wide by two feet six inches high in front, and two feet four inches in the back. The depth is about twenty inches. The back is built straight for about twelve inches; then inclines forward to the throat, where an iron damper is placed. These dampers can be purchased at any builders' supply store, and are invaluable for closing the chimney draft after the furnace fire has been started and the fireplace not in use. A tile flue ten inches square was used in the chimney, and this is the most important feature of all, for so many fireplaces smoke because the flue is too small.

A small book-case containing a few choice books and magazines separates the dining alcove from the living-room. In the side of the boox-case a bas relief of the "Trumpeters" is inset. It is a deep ivory in tone, and has furnished the key-note for the color scheme of the room, the woodwork and ceiling having been painted to match, and the walls, which are of rough plaster, are gilded and toned to a dull bronze. A painted chest of Danish design does service as a wood box and occupies the opposite corner of the fireplace when needed. The top is raised for wood, and a door in the back opens into the furnace room, of which we will speak later, where the box is refilled. This saves carrying wood through the house.

From a pole attached to the beam in front of the dining alcove is suspended a heavy curtain, which can be drawn when privacy is desired. This dining alcove has a corner cupboard, which is an unique feature of the house, the center compartment being reserved for serving, thus enabling the hostess to serve a several-course dinner without leaving the table.

The front of the cupboard, which is neatly curtained, is beside the hostess' seat at the table, and the rear of the cupboard opens on the kitchen side by the sink, and when the meal is over this door is opened, the dishes removed, washed and returned. In this way the compartment is made to serve the purpose of a butler's pantry, is cheaper to build and takes up less floor space.

There are two doors in the dining alcove, one leading to the kitchen, and the other to a small hall, which is in the very center of the house. In this hall is the stairway and a cloak closet. Also a door leading to a small room, which may be used as a den or bedroom, and another door leading to the furnace-room.

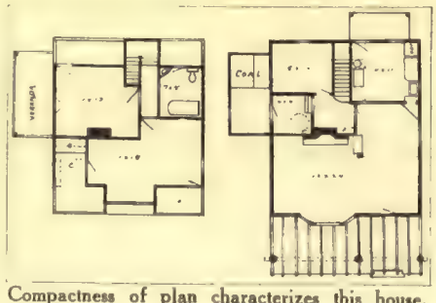
The furnace-room was our greatest problem, and we consider it our greatest achievement. A consultation with our plumber revealed the fact that if the bottom of the hot-water heater could be placed two feet below the first-floor level the pipes could be carried through the house with as good results as if the furnace were placed in the cellar. The plumber also informed us that six feet square would give ample space for the furnace and the necessary piping. Accordingly we reserved a space six feet square behind the chimney, and there we installed the heater. To accommodate it the house was built on a stone foundation two and one-half feet above ground level and three feet below, with three ventilating windows. This made the floor of the furnace-room six inches above the ground to insure against dampness. The floor of this room and the wood-house joining it were cemented. By careful placing we were able to fit in this small room the furnace, six corner shelves, a step-ladder, dust brooms, etc., besides having wall space for two doors and the drop-door at the back of the wood-box already mentioned. The door leading to the coal house has glass panes, which furnish the needed light, and there is an electric bulb. The pipes are laid through inside walls and closets, except those leading to the radiator in the bay window, which are laid under the house and thoroughly wrapped



The corner cupboard contains a serving shelf opening through to the kitchen. Dishes can be reached from this shelf while sitting at the table



The living-room stretches across the entire front of the house and has for its most important feature a large brick fireplace. The flue from the furnace is run in this same chimney



Compactness of plan characterizes this house. Note the furnace room and the small space used in halls

Having decided upon the furnace-room, the next question was where to put the fuel. We solved this problem by building a small addition joining the furnace room. It cost no more than digging a cellar and added to the outside appearance of the house. It is of rough lumber, plastered on the outside to correspond with the house. The roof is sealed, covered with heavy canvas and painted. A railing encloses it, making a cosy veranda, where afternoon tea is often served under the branches of a great elm. From this veranda above the shed one passes by glass doors to the room within, so that it would make an admirable sleeping porch.

Inside the coal house there are two coal bins, over which has been built a large shelf-like gallery, where porch chairs, window screens and other material of like nature can be stored. There is remaining floor space for wood, ash barrels and a fruit closet. The wall space is utilized for hanging garden tools. Nothing could be more compact or convenient than this heating arrangement, with every inch of space made to count. We found that three tons of coal heated the house from December until late spring. The fireplace did efficient service for the remainder of the one year that the house has been occupied.

On the second floor of the house there are two bedrooms and bath. The hall is 3½ feet by 6, and is directly over the kitchen range. An ordinary hot-air register has been placed in the floor, and on cold days in spring and autumn is left open. It is surprising how comfortable the upper rooms are made

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The Outdoor Living Room

BY PHIL M. RILEY

Photographs by Mary H. Northend

THE outdoor living-room is rapidly becoming as potent a factor in the charm of suburban and country living in America as it long has been in that of England. For several years past we have agreed with our English cousins that no house really constitutes a home without its garden secluded from the street, so that our realization of the beauties, comforts and benefits of spending as much time as possible in close proximity to that garden seems to be a natural and happy sequence. Not only



The terrace is the Englishman's porch. It is usually a delightful part of the house. Here is an exceedingly fine example of a bricked terrace between the wings of a house and overlooking the garden. The garden pottery and the bay trees not only frame the terrace but from a distance become part of the architecture of the house. This garden room is equipped with durable furniture of the Windsor type and a French umbrella with lacquered iron table and chairs

do suitable outdoor rooms provide congenial surroundings and privacy in which to enjoy the home ties that concern only the immediate family, but they adapt themselves admirably to social functions of almost every sort, thereby lending variety and distinction to the home.

While outdoor living-rooms differ greatly, all seem to be of two sorts. Either they are terraces, or its allied forms, whether an enclosed space between the wings of a house, or a terrace at the end of a porch or overlooking a garden, but not intimately connected with the house, or else they are secluded portions of the garden itself, generally screened by trees, hedges, lattice-work fences or walls, and usually formally treated, although an informal woodland glade also offers great attractions.



In place of the old, rustic summer-house garden nooks are made of lattice bowers to be covered with vines. White-painted wood is attractive if not given too much prominence

In any case, seclusion is the first requisite, and it is rarely to be had in front of the house, because most of the peeping eyes are to be found in the street. A garden or terrace back of the house is screened from this nuisance by the house itself, especially when flanking wings give a U-shape to the ground plan. Thus that site commends itself most highly which provides a northerly street or entrance frontage and a southerly garden exposure back of the house. Greater difficulty attends the establishment of a secluded garden at the side of the house where both the street and the neighbors must be contended with. Happy indeed is he whose country estate is large enough to place his nearest neighbor at a suitable distance, so that a few trees, judiciously placed, cut off direct vision.

A garden is most appreciated when it adjoins the living-room, dining-room or library, from which it is approached through glazed doors. Charming in its intimacy when one steps from the house directly into the garden, there are many reasons to prefer an intervening piazza, or, better still, an open terrace after the English manner, commanding the garden. An inexplicable charm attracts to outdoor dining, yet, while the garden seems to be eminently well suited to the informalities of garden parties, afternoon teas or even luncheon, it does not meet the more severe service requirements of dinner. A brick- or stone-paved terrace outside the dining-room and overlooking the garden, however, is an ideal spot and convenient. Very often the living-room and dining-room are located on opposite sides of a central hall leading through the house, and the terrace stretches across all three, sometimes between projecting wings; or again, a square terrace at one corner of the house may be bounded at one side by the living-room, and at the back by the dining-room, with glazed doors in each room opening upon it. When at the garden level the terrace requires no balustrades, although a low hedge of box will emphasize the line of transition. A path from the principal doorway of the house through the garden properly takes the axis of the house for its course, leading through a break in the balustrade in the case of a raised terrace, and down several steps to the garden level. Of course, the constructive materials here must accord with those of the house.

There are several ways to provide privacy when a portion of the garden itself is to be used as an outdoor room; notably, by means of walls, fences or lattices, hedges, shrubs, or a combination of one or two of these with vines and flowering plants. A period of years is required to grow six-foot hedges of cedar. Norway spruce, privet, win-







The Europeans use treillage much more than we. Here are two designs of good workmanship to be graced with vines. Such units may frame in a garden living-room. The chairs and table in the center show possibilities for a corner in an informal garden. The material of these pieces is oak or cypress, treated to endure rain and sun and weathering an attractive natural gray



Seats of white-painted wood come in a variety of designs and may be disposed in nearly every garden



The sundial is best a central point in the garden. It should be along some axis of path or gateway



If architectural furniture is used, it must be appropriate to the house. Many forms are to be had in good taste

terberry, buckthorn or Osage orange, and the cost and danger of transplanting any of these when fully grown is great. The same is true of shrubbery screens of lilac, syringa, forsythia, hibiscus, viburnum, euonymous, hydrangea, and the like.

Immediate and equally satisfactory effects may be had by the use of walls or lattice fences combined with flower borders and climbing or creeping vines. Such a scheme is architectural in treatment—tied to the house, so to speak—and thus even more in accord with the living-room spirit. The garden treatment of the living-room will naturally be more formal than the remainder of the grounds, and fences and walls have long been employed as a mark of transition to separate two or more portions of the grounds treated in dissimilar manner. Indeed, fences and walls are important adjuncts, not alone utilitarian, but lending beauty and distinction to home grounds when the materials and construction are such as will give character to them. To realize this one has only to see the dignified, white-painted wood fences of Salem, or the charming brick walls of Charleston half clad with clinging vines, softened by many years of sun and storm, as well as the shadows of overhanging, moss-festooned live oaks traced upon them.



There are many spaces where a garden terrace may be used in America. Where a porch is not architecturally suitable it may be placed adjoining a house and shaded by foliage. Various suitable furniture of iron and durable wood is used here

The wall or fence immediately becomes a background for the decoration of the outdoor living-room. Vines may be grown upon a wall or unpainted fence—even upon a painted fence if the annual or perennial varieties whose tops die every autumn are chosen. The green foliate and evergreen climbers are best interspersed with flowering varieties, and if the latter comprise many annuals a varied effect may be had from season to season.

Flower, shrub or hardy borders, favorite varieties, are the rule in beds two or three feet wide inside the wall. By placing the tall varieties at the back near the fence or wall and the lower ones in front, a well-balanced appearance results, and sufficient decoration to relieve the nakedness of a white-painted fence may easily be had without resort to vines.

Permanent architectural ornaments and garden furniture add to the general gardening scheme a sense of individuality, a keynote of temperament and appreciative good taste. Of the permanent architectural features of a garden living-room, the gateways, benches, a pool or fountain, sundial or gazing globe, arbors, and possibly a garden house or pergola, are most common and best. They correspond in a measure to the windows, doors, fireplaces and other built-in features of an indoor room, and are ranged about to form a well-balanced composition, care being taken to locate the more important ones along the axis of the house, and all of them at points to which the eye is led from the proper viewpoint by paths laid out in geometrical patterns among the flower-beds or grass plots. The disposition of these units is important.

(*Continued on page* 490)



The designer of this house has succeeded in making a sleeping porch which is an integral part of the house and does not spoil its architectural scheme

The Problem of the Sleeping Porch

A CLEAR EXPLANATION OF THE VARIOUS TYPES CONSISTENT WITH GOOD BUILDING—HOW TO MAKE PROPER ENCLOSURES—THE BEST PROVISIONS AGAINST STORMS AND WET

BY FREDERICK N. REED

Photographs by the Author and Others

THE constant increase in the number of persons engaged in indoor work would probably have drawn attention to the necessity of outdoor sleeping before this, even had it not been proved efficacious in the treatment of disease. Those who during the day are deprived of their necessary allowance of fresh air must obtain it during the night, and as this fact becomes more generally recognized, the number of sleeping porches constantly increases.

In sleeping out, the best way to begin is to begin, though the beginning is attended with less discomfort in summer than in winter. In fact, with the protection of a sleeping bag, one can sleep out during most varieties of weather on any flat roof where the sleeper can be free from molestation. A sleeping bag on a flat roof is, however, but a makeshift. What is correctly known as a sleeping porch exists only when it is roofed over, the roof forming an integral part of a larger structure.

Should the porch be applied to the main house, recessed in it, or partly applied and partly recessed? This depends on the season of the year in which the house is to be occupied, the recessed arrangement being the best for winter, when protection against northerly storms is the main consideration. Fortunately, this condition generally obtains in town houses, where any other arrangement is out of the question. In summer, a recessed porch is apt to become stuffy, and the "attached" type is preferable. The exposure in this case is of less consequence. But southwest is generally the coolest.



Awnings which slide up and down vertical iron rods serve the two-fold purpose of keeping out rain and sun. Such hammocks as this serve well for warm-weather sleeping

The left-hand cottage at the head of page 464 shows a pleasing treatment of the second-story central porch with side enclosures of the "cellar" type.

The feature of the cottage beside this is the large central porch designed for the accommodation of several beds, its window enclosures being of the ordinary double, hung type with transoms over.

The greatest difficulty is encountered when the house is to be occupied for the entire year, in which case the best results will be obtained by a combination of the summer and winter arrangements. If the porch be located some where in the south wall, the summer breezes from the southwest, south and southeast can be caught by different adjustments of the projecting enclosures, while the recessed part will protect against storms from west, north and east, as well as from the rays of the rising sun. It is assumed that bedrooms will occupy the corners of the house, which should therefore be kept free from the shadowing effect of porch roofs. The accompanying sketch illustrates this plan (page 494).

As the sleeping porch is a newcomer in the architectural family, the problem of making it feel "at home" in its surroundings is not an easy one. In summer houses where it can be placed in the first story, its architectural expression will naturally follow the lines that have already proved successful in sitting-out porches. With the sleeping-out porch in the second story, the ingenious designer can generally place it over a first-story porch, or,better, over a projecting room, thus giving it adequate support. If no better method be possible, it may be bracketed from the wall, though much discretion must then be used if a "bird-cagey" effect is to be avoided. The main



In scale and suitable detail with the rest of the house, this wing makes possible a porch and an outdoor sleeping room as well



The portico with columns affords a logical place for the sleeping porch, in that it gives the appearance as well as the fact of adequate support



Houses built on an uneven site may answer the outdoor sleeping room and porch problem in some variation of this manner



Although rather too prominent in this instance, the sleeping porch over the entrance is usually a satisfactory means of solving the problem

thing is to make the porch a unit in the main structure, and if a substantial effect is thereby required the main roof supports may be widened into piers without appreciably affecting the air circulation inside provided that at least two-thirds of the length of the outer wall of the porch be left open.

In order to protect the occupants against driving storms, the window-heads should be kept low; seven feet four is enough, and of this about five feet may be assigned to the sash, and two feet four to the space below it. These dimensions might be slightly reduced, but should not be much increased if good protection is desired. The distance from the window-heads to the ceiling is of less consequence; eight inches is enough, and if the ceiling comes naturally at a higher level it may be furred down to it, as excessive height of wall over the windows gives the porch a gloomy effect. Main piers or posts may occur at from ten to twelve-foot intervals. The space between these must, for most types of enclosure, be subdivided by mullions into spaces varying from two to three feet in width, and sometimes a transom bar and transom sash may be used to advantage. The wider the sash are, the more heavy and clumsy they will be. The sills of the openings should be formed with a "wash" or slope toward the outside like a window sill, not be flat, like a parapet cap.

Even with the window-heads as low as suggested, more or less water is likely to enter, and to take care of this the floor should have an outward pitch of an inch in every four or five feet. If a solid parapet be used, either floor drains must be provided, or a gutter be formed just behind it. With a sheathed balustrade, having top and bottom rails, the bottom rail may be kept up just clear of the floor so that the water will run out underneath. Should a tight floor be necessary, painted canvas is as good as anything on frame construction; on fireproof work, tile, cement or similar materials may be laid upon a layer of tar and felt in the usual way.

Before going far with the design it may be well to consider

whether the sleeping is to be done on the "one-bed" or the "two-bed" plan. In the latter, beds are provided both in the bedroom and on the porch. This plan will often be the easier to follow in construction, and in alterations is sometimes the only one possible, though an additional bed is needed, and the outer one becomes rather cold after a cold day. In the "one-bed" plan the bed stands in the room during the day, and is wheeled out onto the porch at bedtime. For this arrangement, steps and saddles at the doors should be avoided; doors must be of ample width, and the bed should be fitted with four and one-half-inch, rubber-tired casters. A bed so fitted may, even when occupied by a person of average weight, be easily rolled in and out. This arrangement is far superior to the other, the porch being more generally available for sitting out, while the bed is kept warm and comfortable inside the house. The "two-bed" plan is, however, in frequent use, and if conditions do not allow the adoption of the other it will be found a convenient and practical arrangement.



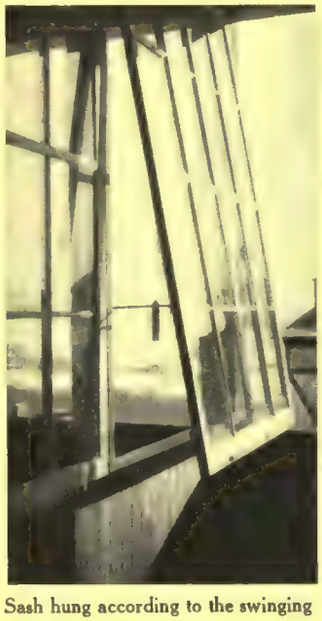
A central porch showing a pleasing treatment. The sash enclosures at the side are of the cellar type illustrated in detail below



The entire wing of this cottage is devoted to outdoor sleeping. The enclosures are of the ordinary double-sash type, with transoms above



Adjustable sliding sash running in wooden grooves



Sash hung according to the swinging cellar type



Large windows protected by durable Venetian blinds

As both of these plans require a full-size porch and a full-size bedroom, it may occur to someone to modify the "one-bed" plan by keeping the bed on the porch all the time; in which case the room might be cut down to dressing-room size. This method gives good results in sanatoria, where hospital facilities are available in care of serious illness, but in private houses it is of doubtful value.

Enthusiasts may be able to use a porch that is open on the sides and front, but the average person will demand enclosures for the sides, and the less robust will want them also for the front. At least seven types of enclosures are available:

(1) Light frames covered with canvas. These are held in place by strong wood or iron buttons, and stacked in a pile on the floor when not in use. They answer very well when designed only to exclude driving storms, and in many sections of the country will be found the cheapest type. Glazing the sash makes them too heavy and adds the risk of glass breakage.

(2) A heavy type of Venetian blind. It is impossible to see through this or the first type when shut, and most persons will insist on a glazed inclosure, of which the first type to come to mind will probably be—

(3) The ordinary double hung sash. This can never make over one-half of the total opening available, and, as it requires wide and clumsy mullions at frequent intervals, is seldom used in sleeping-porch work.

(4) The single, hung sash (a single sash sliding down into a pocket in the parapet). If all the sash must be in one vertical plane, this requires the same mullion as the double hung, but if they can be placed alternately in and out in the positions of ordinary upper and lower sash, the width of the mullion can be cut nearly in half. If conditions permit its use this will be found one of the most satisfactory of all, as it is easy of adjustment and renders the entire opening available. It can be readily installed in ground-floor porches of frame construction, but in other positions the difficulty of finding room for the pocket, and of making it water-tight, will probably demand a type for which no pocket is required.

(5) The "cellar" type (hinged at top to swing in at the bottom) demands no pocket; it requires only a narrow mullion, and makes available 100% of the opening, the lower part of the sash, when not in use, being hooked up to the ceiling, cellar style.

The principal objection to this type is the difficulty of operation, though where frequent adjustment is not needed it is usually satisfactory. A type easy of adjustment is—

(6) The "pantry" type, running on rollers and track at bottom, and guided at top by parting-beads let into the head of the frame. Is somewhat easier of adjustment than the one just described. The sash are usually arranged in groups of two, three or four, each sash in each group requiring a separate track, the efficiencies being one-half, two-thirds and three-fourths, respectively, but no mullions are required. The sill should be

(*Continued on page* 493)

The Seventh Bungalow



THE LESSONS LEARNED IN BUILDING SIX SIMILAR HOUSES APPLIED TO THE SEVENTH—A SMALL COUNTRY HOUSE OF MODERATE COST AND MAXIMUM CONVENIENCE—HINTS ON BUILDING METHODS AND MATERIAL

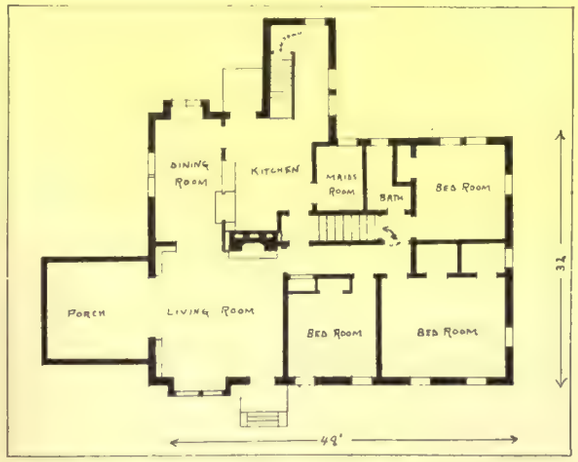
BY CLAUDE H. MILLER

Photographs by the Author

A PERFECT bungalow should combine all the conveniences of living of a modern city apartment with all the joys of living in the country. While our bungalow is not perfect, it approaches this ideal state sufficiently to impel me to tell about it. Every bungalow has two inherent defects. One is that, being all on one floor—including sleeping rooms—the women folks are apt to be timid when the lord of creation happens to be detained at business or is performing his duties as deputy grand goat herder at the lodge each week. The other defect is that, for a given amount of floor space, a one-story house costs more than a two-story house. A watch-dog solves one of these problems and a pocketbook the other.

Someone has suggested that the origin of the word "bungalow" goes back to the time when the first man built one of these elusive habitations and then tried to live in it. One day the worm of illusion turned, and his wife had just discovered that not only was it necessary to escort the ice-man through the living-room to get to the ice-box, but that the lifetime practice of a Saturday-night bath would have to be abandoned because the pump was never working, tearfully exclaimed "a bungle—oh!" The rest of the remark was lost in tears.

I have built seven bungalows. Having practiced on my neighbors for the other six, I felt that some of the mistakes in their houses would be corrected in mine. The result is that we have a home that, after a year, does not disclose any glaring defects to remedy when I build the eighth. We can see lots of other ways that we might have arranged the rooms, but things that are different are not necessarily better.



Economy is attained by so placing one chimney that it serves a fireplace, the stove and the furnace

To begin with, we disregarded the Scriptural warning, and built on the sand. Thus we are insured perfect drainage and a big hustle to make our lawn look as well as Jones', who built on a clay subsoil. The foundation is of concrete. We have a cellar large enough for a steam furnace, coal bin and storage room for preserves, vegetables and a barrel of hard cider. Our bungalow was intended for year-round occupancy, and is built on solid foundations instead of the customary piers of most small summer houses. We provided the frame—the so-called dimension timbers — from native chestnut which grew on our place. All tree lovers know from bitter experience that the chestnut trees are doomed. We, therefore, cut ours down and sent them to the local saw-mill, thus obtaining all the framework of the house at a cost of $16.00 per 1,000 feet, instead of $32.00, which is the price of hemlock at the lumber yard.

There was sufficient field stone on the place for stone foundations, but the cost would have been about 25% higher than concrete, for the reason that all of the boards and 2 by 4 joist that



Electricity and steam heat are features of the successful bungalow. Here a saving was made by the use of plaster boards instead of lath and plaster

were used in making forms for the concrete were afterwards used in framing and sheathing the building. In addition to this economy, a fine layer of sand was found in digging the cellar, which provided all the sand necessary for concrete work. The cost of the foundations, therefore, merely resolved itself into cement and labor.

The house as planned was to have a stucco exterior, which costs practically the same as shingles. It was first sided with sheathing boards nailed on diagonally and the sheathing covered with japanned metal lath. There is a great difference in the price and quality of this material, but again for the sake of economy, we used a brand of lath costing 18 cents a square yard, although tempted to buy a much stronger and better brand at duble the price.

The roof is shingled with Perfection red cedar shingles. This is the name of a certain grade, and is not unduly advertising any shingle manufacturer. The floors are North Carolina comb-grained pine. This is the best cheap floor that can be laid. A better one is maple, and costs 50% more. The trim of the entire house, as well as the doors, is cypress. The merits of cypress admit of some discussion. Its prominent grain when stained gives a beautiful effect, but this same grain becomes an objection when the cypress is painted. Even after several coats of lead and oil, the grains and spots will show through until the painter scratches his head, and, with Lady Macbeth, exclaims, "Out, damned spot; out, I say!"

In spite of this, cypress is best to use in a simple house, both for its low price and for its comparative freedom from knots. It is far better than inferior white pine, which is full of knots and sappy places, and it is less than half as expensive as oak, or any of the hard woods. It is "the wood eternal," according to the advertisements, but someone older than I will have to vouch for this statement. To pause for a minute in the rapid progress of our bungalow, I want to say a word about staining cypress. We have found a stain having wonderful covering properties, that gives a rich nut-brown color obtainable at very little effort, and with practically no treatment of the wood except to paint it on, and after a day to rub it down.

In the question of the finished walls of the bungalow, we were on the fence between old-fashioned lath and plaster at fifty cents a square yard, and plaster boards, which I had found from experience cost about half this amount. As our scheme of interior decoration contemplated the use of wall paper for all of the rooms, we used the plaster boards. Now that the walls are papered, it is impossible to tell what the wall material is.



Even though the house is small, there is an air of spaciousness about the living-room which we do not usually find in bungalows. Cypress trim is effective here

Our bungalow is built in Northern New Jersey, in a remote country district where there are no sewers, water supply or gas. The only modern improvement the section affords is electricity. But with this, all the other things that will give you city comfort in a country house are possible. Electric service is worth more to a house-builder than all other improvements combined. Our bungalow is lighted by electricity, with baseboard plugs in every room to run a vacuum cleaner (when we can afford to buy one). These plugs are at present useful in connecting piano lamps, electric toasters and other gimcracks, and that

(*Continued on page* 486)



Lattice within this porch dining-room gives it the feel of the outdoors. It fairly breathes coolness, but every detail, from rugs to sturdy chairs, spells utility

Bringing Summer into the House

FURNITURE AND FURNISHINGS THAT GIVE INTERIORS ALL THE COLOR AND BRIGHTNESS OF THE GARDEN—CHEERFUL DESIGNS IN RUGS AND FABRICS—NEW STYLES IN WICKER, WILLOW AND REEDWARE

BY SARAH LEYBURN COE

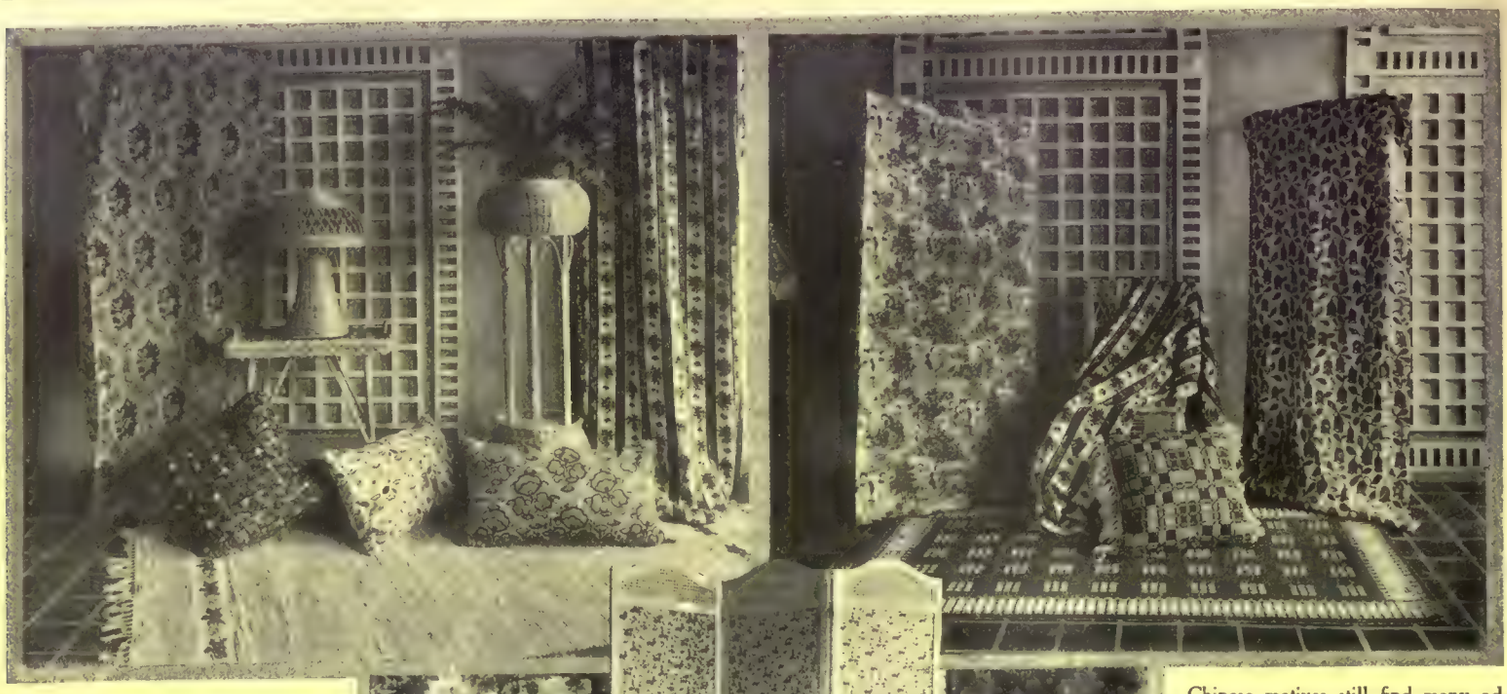
A COMFORTable summer home is not necessarily a place occupied for four months of the year and closed for the remaining eight, nor must it be in the country, surrounded by broad acres, desirable as such a situation may be. The transformation of the all-year-round house into a summertime place of comfort and quiet, of dainty furnishings and cool-looking draperies and hangings is just as possible in town or in the more or less crowded suburbs as at the seashore or in the country, the question being one of fittings and furnishings rather than of the location of the house itself.



Bedroom furniture of willow now is made in every article. New designs are distinguished by attractive patterns in the weave and an actual as well as apparent solidarity

Given well-shaded windows, a piazza of some sort, with a bit, even a tiny bit, of green yard, and the house that is properly furnished is a much more desirable summer home, although there may be neighbors in close proximity on either side, than many a one laying claim to the more pretentious title of country place. Even a city house can be transformed with the right kind of furnishings into a more pleasant place to spend the summer than one miles from town if the latter is not provided with the various comforts that help to make hot weather bearable. Certainly it is worth thinking about.

With the general tendency toward simplicity and lightness in house furnishings, as well as the increasing popularity of willow



Large floral units or pronounced lines are among the new patterns in hangings. The lamp and plant stand are this season's contribution

Chinese motives still find many admirers. The allover design at the right shows the modern tendency of the new school

and wicker furniture for all-the-year use, this change from winter to summer garb in the house is not so serious an undertaking as it may seem on first consideration, and to the interested home maker the working out of such a transformation scheme will be quite as satisfactory as the closing of one house and the opening of another. Practically every piece of furniture needed in a house is now made in willow, and, with the summer rugs in the loveliest of designs at the most reasonable prices, and cretonnes for upholstering and draperies in such a brilliant variety of patterns that one is fairly bewildered at sight of them, the doing over of a house for summer is easily accomplished, and it can be carried out in such a way that there need not

The pictures on this page show appropriate rugs for the summer home; all have some strong color note. Large floral motives in fabrics group themselves in two types as here—the naturalesque at the left, the conventional in startling colors at the right



Light, open weave, willow furniture includes all dining-room pieces. The tables and sideboards are chintz covered and glass topped

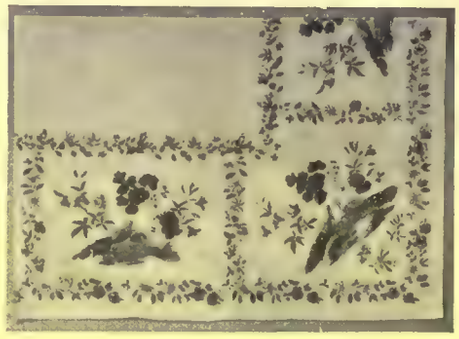


Closely woven willow ware has rows of open spaces, besides a pattern. There is also an attempt to give it the comfort of the cabinetmaker's workmanship

be a great amount of undoing when autumn comes. It is an easy matter to change from summer rugs and curtains to those for winter use. Awnings and porch furniture and rugs can be packed and stored away at the end of the season, while much of the willow furniture, particularly that in bedrooms, can be kept in use the year round, so that little change need be made in these apartments.



Japanese bird motives that were limited to crepe toweling now are found in full width goods



A great variety of table cloths, with brilliantly patterned borders, may be had for the dining-room

The suitability of willow furniture, regardless of season, has been demonstrated by the use of dark-colored pieces with upholstery of deep colors that provide the desired effect of warmth and cheerfulness for winter living-rooms or libraries. The substantial way in which it is now made proves that it is thoroughly practical. Much of the best grade of willow or reed furniture is woven with an almost solid surface, broken only by little rectangular-shaped openings that form the sole ornamentation, the very simplicity of which is most effective, and, of course, the lack of openwork adds to the stability of the pieces. In connection with this solid weave a sort of basket weave in a plaited effect is used, mostly for table tops, drawers, doors and other plain surfaces, and the furniture in which this combination is used has wonderful wearing qualities and is as practical as the ordinary wooden furniture. Bedroom suites in this style are particularly good in natural color, white, French gray, green or brown. The bureaus and dressing tables have glass knobs on the doors, glass tops over cretonne mats, and the chairs, cushions of cretonne to match. A bedroom suite of this description, therefore, if done in a dark color is a part of the summer-home transformation that can be permanent, for, with only a few changes, the room is quite as appropriate for winter as for summer use.



Screens in the bungalow serve a multitude of uses. A very pretty Japanese one of silk or linen has a transparent panel in colors at the top



Vines or screens should shade the porch and it should have some blooming life in porch boxes. Wooden furniture of the straightforward, Windsor lines is very appropriate for the porch dining-room

Dining-room sets that include round table, chairs, buffet and serving table, as well as complete sets for libraries, are also made in this combination of weaves, although these pieces seem rather more practical for the house that is used only in summer.

There is no more comfortable piece of furniture for winter or summer room than the willow *chaise longue,* and a new model is made in two pieces that form a regulation *chaise longue* when placed together, but when separated make an easy chair and a rather large stool. The willow plant stand, too, is an attractive piece made in a new shape that stands quite high, the receptacle for the plants, which may be had either round or square, being deep enough to hold a large flower pot, with a shelf for a second plant quite near the floor.

In lamps, as in furniture, it is possible to have every variety for summer use, made of reed or willow, with cretonne-lined shade, and by substituting these for the heavier and more substantial-looking lamps in ordinary use, much will be done toward producing the desired effect of lightness and dainty coloring. Of all shapes and sizes, including the little desk or boudoir lamps, and tall floor lamps, as well as the adjustable reading lamps with floor standards, these lamps are substantially made and quite plain as to design, with openwork shades lined with cretonne. The cretonne, of course, should match the draperies of the room, and the effect of the gay colors under the openwork willow is pretty in the day time, but particularly charming when the lamps are lighted. For the summer transformation, therefore, there is nothing more easily effected or more satisfactory than this changing of the lights.

To roll up the heavy rugs and put in

(*Cont. on page* 498)



Tuberous begonia

The Emergency Garden



Coboea scandens

THOSE PLANTS WHICH MAY BE GROWN FROM SEED AFTER THE FIRST OF JUNE AND SATISFACTORY POTTED PLANTS THAT MAY BE SET OUT TO GIVE THE RENTED HOUSE GARDEN ATTRACTIVENESS—SUMMER BLOOM FOR THE DELINQUENT PLANTER

BY D. E. LAY

THERE is no use of living in the country if you have no flowers. The home in the city as a base from which excursions are made into the country would be a better way about it. But the vacation home, the rented house—how about that? So often the expectations of a country cottage fail because it is thought impossible to start bloom that amounts to anything after the first part of June, when the average occupant moves to a summer home. Such is not the case; even if you do not commence your hegira to the country until the early part of June, there is still hope for you. Here are some ways to get the full effect of living in the country, even though your house may be a temporary one and one rented only for the summer months.



A box hedge takes many years to grow; kochia gives a surprising effect in a single summer. Rose moss is growing here in the foreground

The best plan would be to lay out your garden early and consult with the local horticulturist, hiring him to attend to the planting of your favorite blooms before you take occupancy. This is not always possible, however, so one must be content with the flowers that may be sown or planted after June first.

There are a number of delightfully effective plants that may be sown at that time. Sweet alyssum, with its white brilliance, flowers a month from the time the seed is sown, and there are many more which will bloom in August from June sowings. A number of other choice varieties bloom until the frost catches them. Let us take them in alphabetical order:

Alyssum.—White plants growing to six inches in height, having a pleasant fragrance about the tiny flowers. Alyssum will be extremely desirable for borders beside paths and at the edges of beds. It is particularly effective also before dark foliage and accomplishes much in covering bare spots. Sow at intervals.

Antirrhinum.—The snapdragon in single colors is very beautiful in dark reds, pinks, yellows and white. If planted early in June in a well-enriched and finely prepared bed should blossom by early fall.

Asters.—Wonderful effects for fall appearance may be had if the best aster seeds are purchased. There are many wonderful varieties of these plants greatly improved. If planting is not made later than the first week in June results may be had early in September.

Calendula.—A very hardy annual, sometimes called pot marigold. The flowers are large, flat and aster-like, but excellent for cutting, and provide a choice of flowers shading from gold through orange to white. Sow lightly and thin out.

California Poppy.—The brilliantly petalled flower so common in the West, blooms quickly from seed, and has blossoms all summer long that are decorative as cut flowers. Whole beds of these plants are very effective, not only for the color of the bloom, but also for the grayish, delicate foliage.

Candytuft.—Also a dwarf, white edging plant, somewhat resembling sweet alyssum, but the plants are taller and the flowers larger. These seeds may be scattered thinly and finely and the growing plants thinned out. Also useful for window boxes.

Annual Coreopsis.—Simply sow the seed and thin out the plants. Caliopsis (as it is also known) is extremely easy of



Even if there was not time to plant a garden, give the house some touch of floral brightness. Porch or window-boxes accomplish much. The trailing variegated vinca is a graceful box plant

growth, and plentifully produces daisy-like flowers with large, open heads. Colors are gold, yellow, red or golden yellow with bronze centers.

Gypsophilla, or Baby's Breath.—The annual sort produces within six weeks from sowing a cloud of feathery blooms, either of pink or white. The flowers themselves are quite small, but are borne on tiny, thin stems above grass-like foliage. Repeated sowings will keep a bed in bloom for most of the season.

Love-in-a-Mist.—The flowers are somewhat like grass pinks, but usually of a blue color and with finely cut, moss-like foliage. An old-fashioned favorite; flowers white, blue or yellow.

Marigolds.—These well-known orange and yellow and bronze flowers are most effective in the fall, and add color when much other bloom is past. They may be had in tall or dwarf sorts (the former, the African varieties; the latter, the French). The plants like sun and bloom for a long season.



Don't make circular beds of geraniums or cannas in the front yard. Such an arrangement as this may be achieved by plants set out early in June and succeeded by the blossoms which grow from seed

Mignonette.—This plant is chiefly desired for its fragrance, as the small, inconspicuous flowers are not particularly attractive except indoors in combination with other cut blooms. Sowings are made at periods of about a week, as the plants do not last long, and in this way the season may be extended.

Nasturtiums.—If you do nothing else, at least plant the nasturtiums. There is scarcely a use about the new country place to which it may not be put. The dwarfed forms are particularly attractive as borders or coverings for the bare lattice work beneath the porch. Climbing varieties completely cover ugly fences, objects that may not be removed from the lawn, or they may be trained high up a wall or lattice. Of late years the flowers may be had in a great variety of really beautiful blooms. and the double forms can give considerable variety.

Pansies.—Pansies may be sown early in June in the seed bed, and if care is given them will be very satisfactory for fall.

Phlox Drummondi.—The annual phlox with its brilliantly colored and variegated blossoms has a remarkable range of colors. You have a good chance to get late summer effect from June planting.

Portulaca.—Another favorite of the old-fashioned garden, and

(*Continued on page* 506)



An arbor or pergola may be made into a shady bower by the use of such vines as Japanese hop and Kudzu, which may be set out early in the summer



Geraniums making such a border as this placed before a hedge and combined with alyssum are ever so much more satisfactory than stiff bedding arrangements



The treatment at one end of the house shows a particularly successful sun parlor and sleeping porch addition. The screened-in room on the first floor is paved in tile

Simplicity of line, with the horizontal emphasized, marks this house. Even the planting carries out this effect and, as a result, the house fits its site perfectly



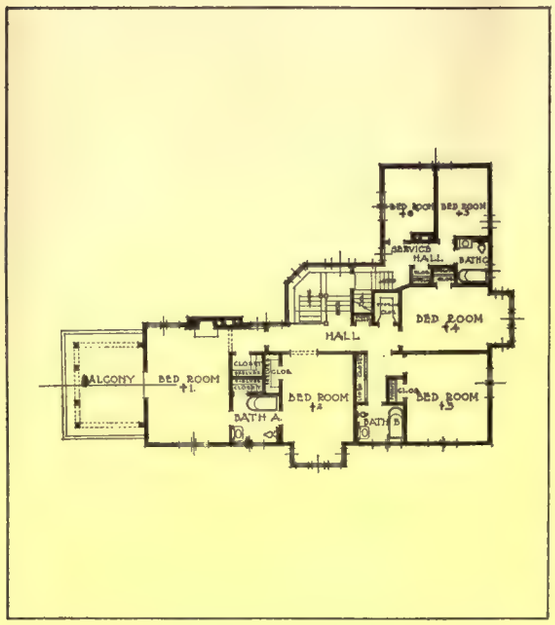
THE RESIDENCE OF ARTHUR HUNTER MONTCLAIR, NEW JERSEY



The architects are strong believers in the casement window and they have well mastered its difficulties. Small units are used and grouped with mullions between. If a casement window is not over two and a half feet wide, it may be made weatherproof



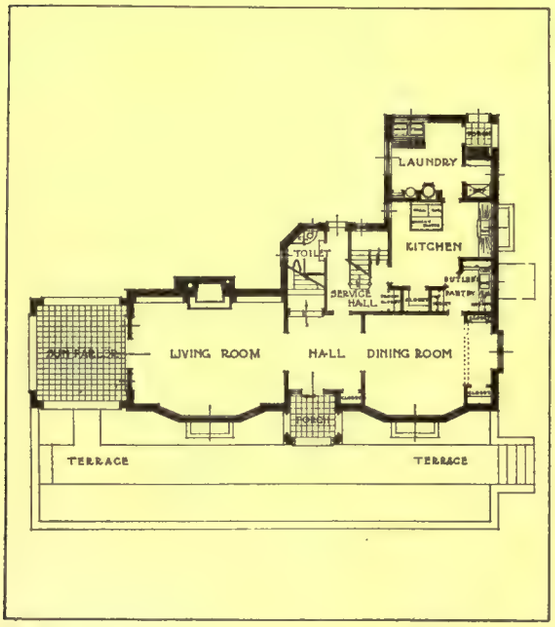
Davis McGrath & Kiessling architects



This sort of plan makes possible a service section and stairway distinct from the master's rooms



The dining-room is rendered attractive by a broad bay and the English casements, with transoms above, make Jacobean furniture appropriate



Efficiency results in this plan. It will be seen that the service department is centrally located for efficient service—near to the entrance and the dining-room



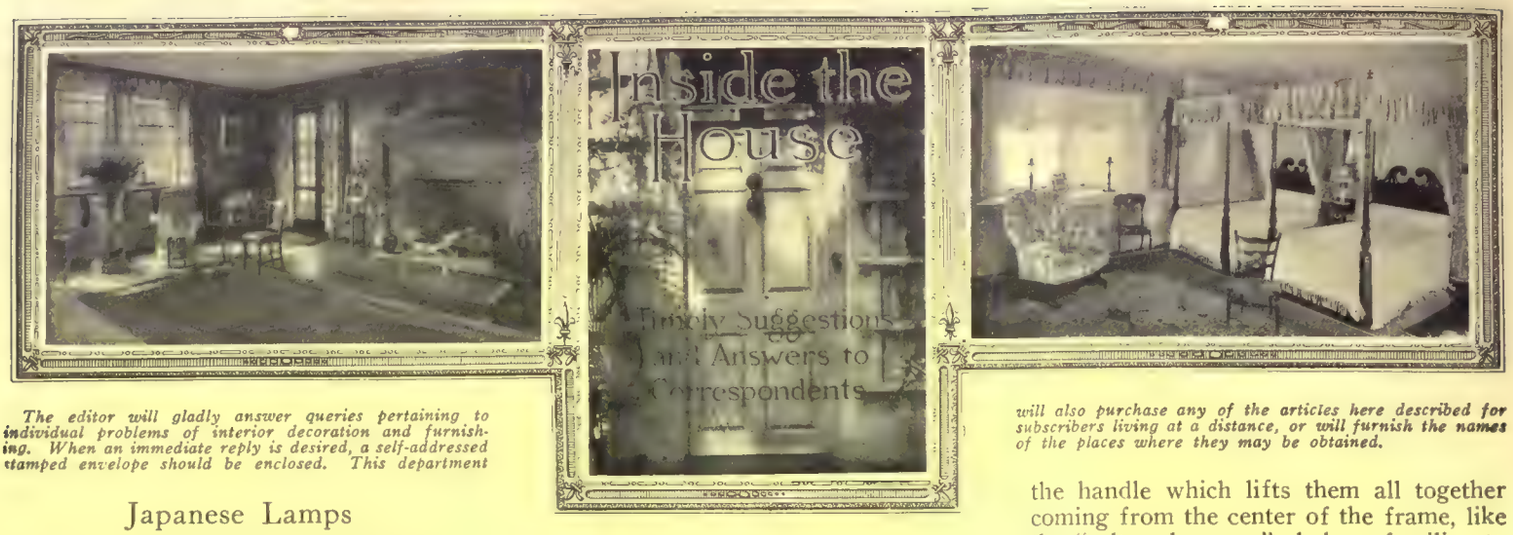
Now that bric-a-brac is out of fashion, there is no mantel shelf needed to uphold it. The treatment in this living-room, with its simple tapestry brick fireplace and its restrained use of woodwork, creates the impression of dignity and durability



The woodwork in Mr. Hunter's house shows a keen appreciation of the decorative possibilities of grained wood simply finished



The entire stair space is taken up by the little section at the junction of the two wings; the house proper is devoted entirely to room space



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, a self-addressed stamped envelope should be enclosed. This department will also purchase any of the articles here described for subscribers living at a distance, or will furnish the names of the places where they may be obtained.

Japanese Lamps

LAMPS and lanterns typically Japanese in appearance and construction, which have heretofore been used only with candles, are now fitted with electric bulbs, and make charming porch lights, or they are equally useful for halls or living rooms. The wall lamps or lanterns which are intended to hang flat against the wall may be had in several different shapes, and are made of rice paper with lacquer frames. The table lamps, with their slender standards and bell-shaped shades, are made with both cedar wood and lacquer frames, and in some the rice paper is perfectly plain; in others it is decorated with fascinating little Japanese scenes. The lamps are picturesque, very light in weight and easily handled, and, whether made of plain or decorated rice paper, the effect when they are lighted is charming, and there is just the right amount of subdued glow that is sufficient for summer nights.

The New Willow-Framed Hungarian Ware

THE fad for Bulgarian colors in dress was the forerunner of the demand for Hungarian peasant pottery—its flower decorations vying with the vivid Bulgarian hues. Combined with willow, the various pieces of pottery now shown in this country are most attractive for summer homes. The trays, plate and jug holders, cup racks, etc., have just enough of the willow work to tone down the coloring of the pottery and make a harmonious whole, while the brightness of the pottery decorations relieves the quiet of the willow.

Very little of this peasant ware finds its way into this country, and single pieces are more easily found than sets. Tea and breakfast sets are being imported, but the single pieces encased in willow frames make the strongest appeal, especially for outdoor use.

The peasant pottery is a nondescript color—not white, nor yet yellow; perhaps deep oyster white will best describe it, and the garish decorations are of flowers and garlands and urns in reds and pinks, blues and greens.

An odd design in a willow flower stand for the porch is in shape a half circle standing waist high; and in the openwork willow shelf at the top are a half dozen Hungarian flower pots. Two of these half-circle flower stands will completely surround a good sized porch post and form a very attractive summer furnishing. The stand may also be used indoors.



An electric table lamp made of Japanese decorated rice paper, with lacquer frame

A vase holder, with reed framework in place of willow, provides very effective decoration. Three cylindrical vases of the Hungarian ware, about nine inches tall, stand well supported in the reed frame, the handle which lifts them all together coming from the center of the frame, like the "salt-and-pepper" shakers familiar to us all.

A cake and muffin holder is made on the same plan, with three plates framed by the reed, and center handle—a most practical and indispensable article for summer tea service on lawn or piazza. The single plate holder, with ears of reed by which to pass it, is also useful, and does away with fingering the plate itself.

For porch or lawn service, the pitcher and mug tray is most desirable. The round willow tray has six small circles of reed near its edge to hold firm the six mugs of Hungarian ware, and in the center a willow basket with a substantial handle to lift the whole tray, holds the commodious pitcher to match the mugs. Whether the contents be beer or cider, lemonade or water, the effect to the eye is the same. A more simple arrangement is in the willow and reed jug holder, a basket-like affair supporting a generous Hungarian jug suitable for any thirst-slaking fluid.

Oddest of all, and with the most euphonious name, is the "jug and mug tree." It is first cousin to a clothes tree, and reminds one of some of the wonderful tree growths described in fairy stories. The tree is a willow and reed one; its apex is a handleless basket supporting a large Hungarian pitcher. Below, jutting out at intervals from the trunk, are what appear at first glance to be a half dozen supplicating hands. On closer examination the extended palms prove to be little willow baskets, each holding a mug to match the pitcher, inviting you to take a drink. The effect of the whole is somewhat bizarre, but its usefulness cannot be disputed.

Some New Willow Furniture

AN innovation in tea tables is provided for summer use in the round willow table with tete-a-tete chairs attached. The main recommendation for this piece of furniture is that the table and chairs, being so light, can be moved all in a moment as one piece of furniture



A lantern made of rice paper and lacquer suitable for a porch light



The new Hungarian ware, with its vivid colors, is very effective with willow furniture. Here is a breakfast set with an attractive flower design



These Japanese lamps are light in weight and afford a subdued glow

—most convenient for porch or lawn use.

A most attractive portable summer shelter is also made of willow, consisting of a circle seat with a large umbrella canopy. The canopy frame is of willow, intended to support a creeper, so forming good protection from the sun. The circle seat is built about an open circle six inches or so in diameter, through which the trunk of the creeper grows to reach the stem of the umbrella. Provided with a healthy pink rambler to grow up through the center and spread to cover the canopy, and cushions of English glazed chintz plentifully sprinkled with pink roses to cover the seats, this rest-for-the-weary makes a most welcome addition to the garden furniture.

Summer furnishings, particularly those for the bedroom, have been improved upon and developed in a substantial weave of willow or reed, until everything included in a bedroom suite can be had, as practical as the suite of wood, and much more suitable for warm-weather use. Nothing could be daintier or more attractive than the suite of imported reed, with its dressing table, bureau, chiffonier and chairs, with screen and twin beds, done in white with cushions of pale-blue poplin. The pieces are substantially made, very little openwork being used, and the fronts of the drawers are done in a diagonal weave, with ornamental panels of the same design in the head and foot of the beds. The bureau, chiffonier and dressing table have glass tops over blue, and the knobs of the drawers are of glass in a pretty design. In spite of its dainty appearance, this furniture has excellent wearing qualities, and there are such delightful possibilities in color schemes and combinations with draperies and rugs that it is a most valuable innovation for the summer house.

A Folding Cot

THE capacity of most country homes is often extended to the limit as far as guests and sleeping accommodations are concerned, so that a folding cot that occupies practically no space, but can be produced when necessity demands, ought to become popular with householders whose hospitality is apt to exceed their accommodations. This new cot folds up like a jackknife, directly across the center, so that when not in use it occupies no more space than a folding screen. The frame is of metal, and instead of springs a piece of heavy canvas attached to the frame by spiral springs forms the bed, which is quite comfortable for summer use. If used at other seasons, however, there is a mattress to fit the bed, which should be supplied, as a single thickness of canvas under one is anything but sufficient in cold weather.



A new folding cot for emergency or regular use in the summer cottage



A *chaise longue* made of close-woven willow with an open-work design. This piece will be a pleasing addition to the summer bedroom furnishings



Garden Suggestions and Queries



CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening* and *Gardening Indoors and Under Glass*

When to Plant

THE question of just when to set out the late tender things, such as tomatoes, peppers, egg-plants, curcubits and lima beans, is always a puzzling one. With the tenderer flowers—salvias, caladiums, coleus, tuberous begonias, etc.—waiting a few days for absolute safety does not make so much difference. But it is very natural for one to want to have the first ripe tomatoes, or the first beans in the neighborhood, and muskmelons or lima beans as early in the season, which is short enough, any way, as they can be had. Planting too early not only risks the life of the plants, but, even if they are not lost, cold, backward weather will check them so that they will be permanently injured and probably mature later than plants set out after them. On the other hand, when it has become warm enough, every day lost is a serious handicap; and waiting over a day may mean a week's delay on account of bad weather. The best solution I know for this dilemma is to make two plantings of such things—not to double the amount, but to risk half a week or so before you would feel absolutely safe. In that way you will be sure of getting absolutely the earliest crop of these which the nature of the season will allow. If the first planting is lost it can be replaced later, and in the meantime the second planting is coming on to give you the earliest yield.

The "Seed-Bed" versus Direct Sowing

Most of the flowers, and many of the vegetables which are sown outside during May and June, may be planted in either of two ways—sown directly where they are to grow, or in the seed-bed or border for transplanting later. Unless there exists some special reason in an individual case, I think that the latter method is the most satisfactory. You can get better and much more evenly graded plants; the flower-beds or vegetable rows, when transplanting is done, can be given a perfect "stand;" and incidentally a great deal of space is saved, which can be used for earlier things, pansies or spring-blooming bulbs in the case of flowers, and early things, such as lettuce, radishes, turnips, kohl-rabi and peas, in the garden. The seed-bed may be made where it can be watered and carefully protected from insects while the little plants are growing. The rows should be four to eight inches apart, according to the things grown, and the little plants carefully thinned as soon as they begin to crowd each other. Such flowers as have a tendency to grow up into a single, tall stalk, like antirrhinums, heliotrope, and many others, when first started from seed, should be pinched back to induce a branching growth. It is a good plan to have on hand a supply of tobacco dust, and use it freely over the seed-bed, beginning just as the first seedlings are breaking through the soil, to keep away the various insects which may be interested in your undertaking.

Don't overlook at this time plantings of cabbage and cauliflower for fall and winter use. These should be put in from the first to the middle of June. And a generous sowing of beets and of carrots for late fall and winter use. The carrots especially should be put in as soon as possible after this date. Succession crops of all the quick-growing things will be in order also—lettuce, radishes, turnips, spinach, peas, etc. But change the varieties. Select sorts that are adapted for summer use. Of such, Brittle Ice and All Seasons and Deacon lettuces are good; Chartiers, Crimson and White Strasburg are standard summer radishes. British Wonder, a dwarf, and Alderman, tall, are splendid peas. Amber Globe is a fine quality turnip, and any left over will keep well through winter. Victoria, or New Zealand, spinach will "stand" well in hot weather—the latter requires lots of room.

Watch for Insect Pests

Where you are going to set out tomato or other plants, or choice flowers, take care of the cutworms *before* planting. Mix bran and Paris green, a good teaspoonful of the latter to a quart of the former. If the ground is bare, put it on dry; if there are other things for the worms to eat, mix a little brown sugar or molasses and water with it to make a mash; spread it about in small quantities in the evening several days *before* planting. Cucumber beetles and squash bugs may be kept off by using tobacco dust around the hills, and arsenate of lead as soon as the plants are large enough to spray. For rose bugs, which usually will be sure to put in an appearance about this time, use extra-strong arsenate of lead—and it is well to apply Bordeaux at the same time—and hand picking. Also use Bordeaux on the young beans, potato and melon vines. It is an easy matter to begin early and attend to this regularly, and it will save a great deal of work and worry later. The currant worm also is likely to turn up about the time the fruit is forming. Arsenate of lead or hellebore, if the fruit is partly grown, will take care of them, and the same treatment may be applied to the cabbage worm, which you may expect shortly after you see the small white or yellow butterflies hovering over the plants. Our old friend, the potato bug, may also be looked for after the first real hot summer days; but arsenate of lead and Bordeaux will take care of him.

Constant Cultivation

The big, regular job in the garden—and in the flower-beds, too, for that matter—during the month of June is *constant cultivation.* Every week if possible slide the wheel-hoe or the scuffle-hoe over the ground between the rows, working as close as you can without cutting roots, and not going deep enough to break them. If this seems like a lot of useless work, just remember that every time over is of more benefit to the garden than a light rain. And if you never let the weeds get started between the rows, you won't have much trouble controlling them in the rows.

THE GARDENER'S CALENDAR

Wherein is laid out his daily work for the year, together with sundry facts useful or interesting.

Sixth month
Morning star—Saturn

June, 1914

Thirty days
Evening stars—Jupiter, Venus, Mars

Sunday	This calendar is for the latitude of the Middle States, but it is available for the whole country if it be noted that for every one hundred miles north or south there is a difference of from five to seven days later or earlier.	7. ☽ Trinity Sunday. Resolution for Ind., 1776. Watch for currant worms, rose beetles and plant lice or aphids. Hellebore, handpicking and soapsuds are the remedies in order.	14. ☺ Flag Day. Look everything over for borers. Castings that look like sawdust on bark of trees or shrubs reveal their whereabouts. Kill them with long wire probe.	21. ☾ Dig out weeds persistently also. It is getting tired of such work that causes failure; weeds are not ineradicable but they are more persistent than man.	28. ● Consider keeping bees if you have none already. Honey is a wonderful antiseptic, food and medicine. Use it instead of sugar for everything, including preserving.
Monday	1. ☽ First quar. 9h. 3m. A. M. Everything is to be guarded against cutworms now. Rub all adventitious and unwanted buds from trunks of trees, etc., as soon as they appear.	8. ☺ Full moon 0h. 18m. A. M. Tie things up as fast as they grow, otherwise they become twisted and hopelessly out of shape. Use Bordeaux on potato plants to forestall scab.	15. ☾ Last quar. 9h. 20m. A. M. Franklin first drew electricity from clouds 1752. Keep tomatoes off the ground and so free from wireworms.	22. ☾ Sun enters Cancer 1h. 55m. A. M., and summer begins. Insecticides may be bought ready mixed, and these are better than home mixing if you buy only from the best dealers.	29. ● Keep grapevine suckers rubbed off and the ground around the vines clean. Also keep suckers rubbed off from all trees, especially newly-planted specimens.
Tuesday	2. ☽ Till ground surface everywhere twice a week. Spray roses with potassium sulphide; use this also on hollyhocks, phlox and everything subject to fungous troubles. Watch for aphids; use soapsuds.	9. ☺ Till to-day. Spray roses as above, and everything else that may be subject to fungous.	16. ☾ Till to-day. Spray roses with potassium sulphide, and with soapsuds if aphids are in evidence.	23. ● New moon 1h. 33m. A. M. Till to-day. Spray roses, etc. Cut roses early in the morning as fast as they bloom; this is the only way to have plenty, and to get the most out of them.	30. ☽ First quar. 2h. 25m. P. M. Till to-day. Spray roses, etc. A mulch of lawn cuttings above the roots of young trees and shrubs is an excellent thing for conserving ground moisture.
Wednesday	3. ☽ Hobson sank Merrimac 1898. Planting day; sow succession of anything desired, using early varieties of corn, beets, etc.	10. ☺ Trim evergreen hedges. About now it will probably be time to spray with arsenate of lead for codling moth. Keep a close watch daily for its arrival.	17. ☾ Battle of Bunker Hill 1775. Pick seed pods from flowers as fast as they begin to form; or better, cut the flowers as they fade. This promotes bloom.	24. ● A planting day. Sow succession crops as wanted. Pot up strawberry runners for plants to set out next month.	
Thursday	4. ☽ Sowing may be done to-day also. Thin out everything constantly. Layer melon and squash vines as protection against loss by borers. Tie up tall-growing things as fast as they grow.	11. ☺ Apply nitrate of soda to top crop vegetables. Dig a little bone meal in around roses and all perennials that are beginning to flower.	18. ☾ War of 1812 began. Watch for cutworms. Prune all early blooming shrubs now, if they need it. Always prune with restraint, however, eliminating only weak and unsightly wood.	25. ● Plant potatoes for late crop; such will often avoid blight altogether. Plant now New Zealand spinach, summer radishes and endive—all heat resisters.	
Friday	5. ☽ Till to-day. The exact date of spraying for codling moth, pear slug and psylla cannot be fixed. Watch all fruits from now on closely, and be ready when the time arrives to do the work at once.	12. ☺ Till to-day. Trim tomatoes and stake up, or fasten according to method you have selected for training.	19. ☾ Till to-day. Trim deciduous hedges. Picking the rose-bugs by hand is, of course, much surer than any spray.	26. ● Custer defeated by Sioux 1876. Till to-day. Soot, kainit, tobacco dust and stems are excellent for the soil as well as being maggot preventives; sift on.	
Saturday	6. ☽ Apples may require all told 7 sprayings, plums, peaches and apricots 6, cherries 4, pears 3, small fruits, shrubs and shade trees 2, roses one a week from April to end of summer.	13. ☺ Saturn becomes Morning Star. Spray elms for leaf beetle; enlist neighborhood co-operation in this work, else it will avail little.	20. ☾ Mow lawns often but never very close. Seed bare spots persistently, and they will ultimately yield and become grass-grown.	27. ● Make a seedbed for fall and winter vegetables and flowers, and sow *now* whatever you may wish to have then.	

"Gather ye rosebuds while ye may, Old Time is still a flying."—*Herrick.*
"A dripping June brings all things in tune."

Generally fine and warm, though a bit freaky; hot at end of month

EDITORIAL

URBANITY AND THE SUBURBANITE

IN those archaic days when humor was young and a joke had to be driven home by the thrust of a sturdy elbow, some wit invented the risibility of the suburbanite. It gained in favor—students of the dead languages become friendly with it in various of the classics. Plautus was fond of this ancient witticism in Roman days, and, although no record is extant as to the reception of the fun at the commuter's expense, from the position it occupied in the play we judge that if Plautus was a successful dramatist the Roman audience gave sympathetic recognition to humor of this sort. Perhaps some Roman Cohan convulsed his hearers by requesting silence while the citizens of Ostia left to catch the last boat, or others hurried to be in time for the late conveyance to Tivoli.

To-day among the fun-makers' stock in trade the suburbanite theme holds a prominent place, and in spring and winter if all the jokers' subjects could be gathered and grouped it would probably be found to preponderate in this census of wit, not only numerically, but, if the test could be made, by weight. There is not a paper in the land that does not have some one of the stereotyped representations of the man from the suburbs.

As a result of the constant iteration of this theme the out-of-towner has become shy, apologetic. City dwellers may receive instant recognition at the mention of their metropolitan habitat, but the mere statement of a suburban residence has the opposite effect. The poor suburbanite has no increment of dignity to be gained from his home. Whenever its whereabouts are discovered, he either meets with a polite "Oh!" or else one of the hundred and fifty-seven varieties of commuter story.

And literature and language have made this suburbanite joke a firmly fixed custom. Perhaps you think that your figure is trim, your apparel in style, your eyesight good, your carriage bold, distinguished, genteel! If you daily cross the metropolitan boundary line, that is impossible; once over that Rubicon you become a bundle-burdened, bespectacled, seedy, awkward plodder. Don't try to disprove the general impression; your dictionary will back up the comic papers. What are the synonyms of courteous, cultured, polished? Why, urbane, civil, politic, and each one is derived from a root meaning of or pertaining to the city.

But if you are a suburbanite, if you are branded with the opprobrious epithet "commuter," take cheer. Your sentence has been commuted from death to life imprisonment, as it were. The brilliant metropolitan pace kills; we who live beyond the pale of culture must admit it. In the mad chase after fashion, the brilliant fencing of wit, it takes a man of strength—and a long wind—to keep up. We outsiders may pursue our quiet round at least content in our lot. We will live longer in our peace. So, here's to eye-glasses and paper bundles, to rubber plants and baby carriages, we adopt the insignia of the cartoonists' conception. Our sentence is consignment to a lotus land of blue sky, the patch of green ground, the rolling turf of the links; to whole roads bordered by those curiosities of cities—trees. We are deprived of the scientific improvements of janitor service and air shafts; we still climb up steps in absence of that modern catapult, the apartment-house elevator. We are more or less rural; even if there may be no hayseed in our hair, for the most part we substitute for grand opera the symphonies of the barnyard, the voices of the woods and fields. Our gallery is painted along the hedgerow and in the half-acre garden pictures. Much of our stage is the living-room carpet where the children play. For literature, there is all the material of the Commuter Cycle—old enough in theme to have earned dignity. Perhaps we may lack the urbanity to appreciate its subtleties completely, but in our rustic fashion we are quietly amused.

FASHIONS IN FURNITURE

IN the elaborate showrooms of a great furnishing and decorating house a courteous, soft-spoken salesman was just completing a sale. This is part of what he said: "Oh! dear, no, madam, the Georgian style is quite *passe;* none of the best people are buying it. But Jacobean, that's all the thing this year! Indeed, one might say it was very fashionable at present."

The prospective purchaser became quite convinced at this. Her order was Jacobean. To the person who overheard this conversation it sounded reminiscent. It recalled that part of the Barrie play where the fond mother gives the commission to a gentleman to buy a razor for her son. Her instructions were to purchase one for a young man about five feet nine, with blond hair and blue eyes.

What can be expected of the public taste when furniture of the period styles is sold by a dealer under the argument that it is in fashion this year? One might just as well expect an architect to advise his clients to have a façade with Corinthian columns upon his house because Doric detail has "gone out."

It is the peculiar psychology of fashion to neglect fitness as a determining factor. Sometimes novelty, sometimes eccentricity, sometimes *chic,* sets a style in garments. The mysterious arbiter unalterably fixes it. Although unexpressed, there is a clear understanding that it will be evanescent. This year's gowns "go out" next year. We do not wish to deny that fitness is absent from fashion. Often it is present, but merely incidentally a part. Mode means temporary favor, prevailing only in incidents of time.

The period styles are developments, natural evolutions. Historical influences become crystallized in form and detail. Now it was the growth of the new learning, now the new discoveries in Pompeii, now the spread of commerce, which affected them. The craftsmen of each period adapted the new ideas of their civilization to the old forms their predecessors had left them, and modified these new elements to the usage of their time. It may be argued that this is nothing more than fashion. We do not agree because of the factor of permanence in each style.

But these styles reflected the kind of life of the people. It was gay, it was decorous, or it was a time of strict restraint and simple pleasures. At any rate the period styles had a utility element; they were created to form an appropriate background to the life of the people, they reflected tastes which, though predominating at the time which gave them birth, still are characteristic of many to-day. Since they are in the realm of art, their interest is lasting, for art is of all time. Seek, therefore, that period which meets the demands of your own life.

In modern usage we have these resources of the great furniture groups to draw upon. We do not say that Georgian is better than Jacobean. There is the place for each. Both may exist just as there is room for the romantic and the realistic novel. Each style has its peculiar feeling, its fitness depends upon the atmosphere which is made desirable by local conditions. The kind of house, the type of life of the individual, the character of the neighborhood and the function of the particular room—and its color scheme—these all are considerations bearing on the proper selection of furniture. People are different; their requirements, thoughts and manners are different. The decorator, whether he be the houseowner or the professional, must make a study of the specific problem from the standpoints suggested above.

There is no Prince of Wales, no Paris, to decree what furniture and decorations you should select. You and good taste in partnership are the judges. You may not use period styles at all, but whatever method you choose, use it because it answers your needs and your artistic sense, being thankful that we are not compelled to dress our homes as we are our bodies.



HEATING PROBLEM SOLVED. In this beautiful living-room the artistic effect is not marred by ugly radiators, but the architect has placed them in window recesses covered by Special Grilles designed to fit the odd shape of the panel and to harmonize with the period and style of architecture.

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Dept. E, Bedford, Mass.

A Small Country House of Ingenious Planning

(Continued from page 458)

by this simple device. Of course, care is taken to keep the register closed when cooking is going on. This can be done from the kitchen by a chain, which is attached to the under side of the register.

The front bedroom is eighteen feet long, and is so arranged that it will accommodate a double and single bed, two dressers, a table and chairs. It has a closet 5 by 7 feet. The smaller room, which opens on the upper veranda, has a skylight four feet square beside the two glass doors. It does duty as a studio when not needed for a bedroom.

The waste places under the roof have been utilized and each room and the bath has a small door opening into one room. Trunks and boxes are stored here. There is also a generous attic above, with ventilators at each end, which assist in keeping the bedrooms cool in summer. These are closed from the inside in winter.

A word as to expenses. A city apartment with three sleeping rooms, or a bungalow in a desirable location, will rent for from $50 upward. We pay, including interest on $4,000 expended at 5½%, taxes, insurance and fuel, less than $25 per month. We are two minutes' walk from the trolley, fifteen minutes' walk from the railroad station and fifty minutes from New York City. Long Island Sound is hardly a mile away, just a short boat ride, and the boat lies in the river, seventy feet below our garden.

A Comfortable Camp in the Woods

(Continued from page 451)

stained and held in place by wrought-iron nails with large, rough hand-hammered heads. This use of undressed wood for interior finish is one of the most successful features of the interior treatment, as it gives a feeling that is decidedly camplike and spontaneous. The rule adopted in the design of the interior was to do nothing that could not be done with the ordinary tools of a pioneer woodsman and with materials that could not be obtained at the nearest saw-mill, and a plane was taboo.

This rule was faithfully followed in every detail except in connection with working parts, such as sash, shelving, floors, etc., where sanitation and practical considerations were of importance. Hukweem is an Indian name, meaning Loon, and this bird is used in every conceivable way in decorations.

All the furniture was specially designed and built by Chas. Rholffs, of Buffalo, and the loon appears on every piece of furniture in one way or an-

other. The camp idea is further carried out by the display of hunting trophies on the walls.

The treatment of the bedrooms is particularly successful. Here the style is one of simplicity. The furniture is of spruce roughly planed, with tool marks showing. The covering and draperies are of chintz, and the wall decorations are confined to a simple coat of water-color on rough plaster.

The plumbing is of the best character, and in the lath no attempt was made to strike any note other than that of simple practicability, and there is no suggestion of the "Old Oaken Bucket" or the tin basin.

The main camp, as will be seen from the plans, contains five bedrooms and two baths, while provision is made for a large overflow of guests by two bedrooms and bath in the boat house. The son of the family has his own quarters, consisting of a bedroom and bath, with living-room and billiard room nearby. The servants have separate quarters accommodating eight, while the laundry, ice house and storeroom are all in separate buildings.

A common mistake in building a camp in the woods is frequently made in the treatment of the grounds surrounding the place.

At Hukweem the dominating idea was to see how little, rather than how much, could be done. Instead of clearing off a large space for lawns, only a very small area immediately in front of and on the south side, where the entrance turn was built, was cleared. Elsewhere the native shrubs—huckleberries, kalmia, young spruce, viburnums, mountain ash, ferns, wild orchids and every species of natural ground covering were left undisturbed. The camp is set back almost 300 feet from the lake, and it was necessary to cut certain views or vistas to the lake and distant mountains. These views were carefully selected, and all the poplars, locally called popple, were first cut out. These are at least short-lived trees and undesirable—then such other trees as were necessary were cut down or their limbs trimmed so that instead of one view of the lake and mountains, there are many, and each one a different picture. This method also tends to conceal the camp from the lake to a very great extent, making it more retired and suggestive of a "camp." Trails or paths were then cut through the underbrush and the bare earth exposed by grubbing out the thickly matted ground cover. These trails were then covered with pine needles, which prevent the growth of weeds or plants to a large extent in the paths. The idea of sticking close to nature does not preclude all the artifices necessary to the comfort and enjoyment of man, and a tennis court was successfully attained by clearing and grading a naturally level part of the grounds in a place when it is not seen from the camp

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30 x 3½	15.75	17.00	3.50	35 x 4½	34.00	36.05	6.30
32 x 3½	16.75	18.10	3.70	36 x 4½	35.00	37.10	6.45
33 x 4	23.55	25.25	4.75	37 x 5	41.95	44.45	7.70
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and can only be found by careful search, so unobtrusive its necessarily formal lines were made. A pergola, a gazebo, and even a flower garden with a fountain and straight flower beds, were all realized by careful planning, so that they do not obtrude, but rather retire, and seem to fit their natural surrounding as easily as an old glove. The day may come when the Italian villa of Lake Como type, or something else more architectural, will supersede the camp idea in the Adirondacks and be more or less appropriate, but at present Hukweem is typical of the best work now being done in this class of design.



The Garden Club

(*Continued from page* 452)

owing by us to the Chinese or the Japanese for anything in the rose world—for we owe them so much on other scores. But their part of the world seems to have neglected the rose to a remarkable degree, considering that the lovely tea rose in its original form comes from there, and that they are the happy owners of the splendid rugosas in their wild state. So as it stands now the rose is distinctly a plant of the so-called Aryan races—which is hardly definite enough to stir us into an ecstasy of patriotism, one must confess, though it does in my illogical breast minister pleasantly to prejudice.

I am in a fair way to have all this racial pride take a tumble, though, it seems; for it is to the China, or tea rose, that we are already indebted for the great glories of our rose gardens today—the H. T. class—and to the wild rose of Japan, *rosa rugosa,* that the growers here in America are looking for their great help in developing our own ideal garden rose—which must, of course, be as hardy as it is beautiful, and must blossom *all* of the time. And it is, moreover, two other Japanese species that have furnished American growers our wonderful ramblers, the commonest—and horridest!—of which, the ubiquitous crimson rambler being the child of one—*rosa multiflora,* while the lovliest ones—Lady Gay, Evergreen Gem, W. H. Egan, Dorothy Perkins and Dawson—are the offspring of the other—*rosa Wichuriana.*

The last was given to America in 1893 by Mr. Jackson Dawson, of the Arnold Arboretum, explained the rose man; and he insists that we ought all to always remember this man, and to hold his name in highest esteem among horticulturists in America. The Dawson, Dorothy Perkins and W. H. Egan are all his hybrids, and I do not know how many more, for we were not given all the names, of course; but all around his cottage are wonderful climbing hybrids, we were told, being tested and weighed in the bal-

ance to see whether they are worth offering to the world—or whether they are not worth even keeping at all. Think of the patience! To begin with cross fertilizing blossoms and guarding them; then planting the seeds thus produced; then waiting for these to come up; and then waiting for them to grow up after they have come up, until they are old enough to blossom themselves; and *then* to throw them all away, root and branch, if they fail to meet a certain standard! Why, one needs to be a Job and a Methuseleth combined to go in for this sort of thing, I vow!

Hybrid teas are the roses which now approach nearest the ideal for the garden, for they do bloom all summer; most of them are fragrant, and they are not impossibly tender: But, oh! how I wish they would hurry up and mix rugosas and hybrid teas and hybrid perpetuals, and whatever other ingredients are necessary, and give us the warranted-hardy-delicious - smelling-beautiful-double-flowered-free-from-bugs-and-disease rose, in all the colors, which our hearts are craving! "Doesn't seem much to ask," says Polly Addicks, really sulky about it, "when you see what has been done."

For our gardens we were told to have no teas unless we were willing to protect "thoroughly"; to have many hybrid teas and protect these "moderately"; and not to give much space to hybrid perpetuals unless we had some special favorites among them. I, for example, have always loved a "Jack" rose because of its association with my frivolous coming-out age, an armful of these as large as myself having figured conspicuously in a certain very sentimental scene about that time—so of good rousing General Jacqueminot I have several, and always shall have several. To make them somewhere near perpetual—the name is a cheat!—I am this year going to try cutting back the branch that has flowered, as he suggested, almost to the main stalk. They will put forth a new branch treated thus, and very often—though not always, I judge—this new branch will blossom. Anyway, it is worth trying.

Together, Polly Addicks and I have worked out a wonderful "efficiency gardening" scheme this summer—and this is one of the fine things about a garden club, by the way. It makes for this sort of mutual interchange of ways and means, and gets things running smoothly for you when you have never been able to get them running smoothly for yourself. And, thanks to this scheme, I am really *enjoying* my small rose garden for the first time.

Counting in this year's additions, I have about eighty roses; and my schedule, which hangs beside the door of the sitting room up-stairs, calls for "Tuesday: 7 to 8 A. M., spray roses," following "Monday: Dissolve soap for rose spray." This have I followed religiously ever since the Tuesday nearest to April 15th;

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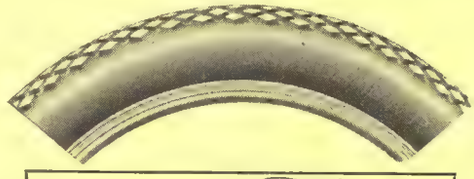
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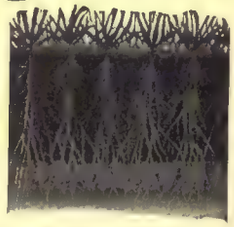
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and so, before the rose expert came to inspire everybody, it was actually a working scheme, tested and found good. I told him about it, and he was delighted.

Soapsuds and fungicide are used all the time, for plant lice are forever around, and fungous diseases, being incurable, must be forestalled. But the poison for the chewers we do not use unless something is eating up the plants. Our three stand-bys are whale oil soap solution, ½ pound of soap to 4 gallons of water—this amount is enough for one complete application in my garden, my allowance being about a pint to a plant; this is only a trifle less—arsenate of lead for the worms and slugs and rose bugs—the eaters—in the proportion of one-half pound to five gallons of water, and potassium sulphide, two ounces to four gallons of water, for mildew and fungous diseases generally. Bordeaux mixtures we only used at the first general clean-up the middle of April, for it shows and looks ugly on the foliage later. The proper strength for it is one pound to six gallons of water—which is more than enough, but I use it all up, for I have everything in the roses' neighborhood treated to a dose, as a precaution.

Every week we use the potassium sulphide, and I dissolve it and mix it and go straight out and spray with it, for it does not keep. I believe it holds the aphids in check, as well as fungi, for they never get very much in evidence; but, to be quite certain of their never getting a hold, I use the soap before the potassium whenever I see a sign of one of these wretches; consequently a "stock" of soap dissolved is maintained, the half pound in one gallon of water, ready to be reduced and used instantly any Tuesday I find need of it. And by setting the potassium to dissolve when I go out to use the soapsuds, I save time and get through the two sprayings in very little more time than the usual once over the plants takes.

Each morning I cut roses, before breakfast usually. But we swore an oath to each other, did Polly Addicks and I, that we would never let anything induce us to do any spraying or doctoring on any day save the one set apart for it. For once you get to dabbling and puttering around at other times, you are a goner!

So it is on Tuesdays only that we spray; and on Tuesdays and Fridays that our rosebeds are raked over and tended; and not a touch do they get on the days between. Spraying and raking over—tilling, I suppose, one should call it—and tending generally uses up about three hours or three and a half in the week—one hour being my spraying time, and the other two being the man's. And I could do all of it myself, if he left or anything happened to him, in the same time, or very little more. For, being always done on schedule—barring rain, when it is done the first day after that

admits, and the schedule resumed immediately with never a lengthened skip, but rather shortened one, to get it adjusted—it never takes longer than the time allotted; for it never gets ahead of us.

The rosarians' finest roses were these:

HYBRID TEAS

White—Bessie Brown, Kaiserin Augusta Victoria, White Killarney, Molly Sharman Crawford.

Yellow—Betty, Mrs. Aaron Ward, Duchess of Wellington, Sunburst, Marquis de Sinety, Mme. Ravary.

Pink—My Maryland, Killarney Queen, Caroline Testout, Lady Alice Stanley, William Shean.

Red—Richmond, Laurent Carle, General MacArthur, Chateau de Clos Vougeot.

TEAS

White—White Maman Cochet, William R. Smith, Marie Van Houtte.

Yellow—Etoile de Lyon, Lady Hillingdon, Harry Kirk, Miss Alice de Rothschild.

Pink—Duchess de Brabant, Maman Cochet, Mrs. Hubert Taylor.

Red—Meteor, Corallina.

Souvenir de Catherine Guillot is a reddish-copper, neither red nor yellow, though favoring both; very rich.

HYBRID PERPETUALS

White—Mrs. Andrew Carnegie, Frau Karl Druschki.

Yellow—Gloire Lyonnaise (white, tinted yellow), Celine Forestier.

Pink—Magna Charta, Mrs. John Laing, Paul Neyron (dark pink).

Red—Baron de Bonstetten, General Jacqueminot, Prince Camille de Rohan.

CLIMBERS

White—Silver Moon, White Dorothy.

Yellow—Francois Poisson, Aviateur Bleriot.

Pink—Dorothy Perkins, Lady Gay, American Pillar.

Red—American Beauty, Excelsa.

A Seaside House that Fits Its Site

(*Continued from page* 455)

a reading lamp, matches near by, a vase of flowers. Books were in the "built-in" case. A large easy chair was drawn close to the table—a tiny pair of heel-less slippers beside the footstool! It was an apartment fit for the best in the land. It seemed to me that there would be less trouble about the servant problem were they all treated in so courteous and friendly a way.

Within the house everything has the appearance of handicraft work. The huge beams are pinned together. The owner is interested in our native Americans, so he has as much of their craft as he could



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E. R. J. RAY

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get. Indian rugs are on the floor and hang from the balcony. Indian baskets are on the walls, holding brown grasses or gay flowers. They are used for waste-paper baskets; rows of them are on the shelves. Indian pottery, saddle ornaments, blankets, etc., have been placed in decorative ways here and there. The table runners, pillow covers, even some of the book and magazine covers, have been ornamented with a pattern from the Indian rugs. Where it has not been possible to keep strictly to the Indian scheme of things he has filled out with material in similar colors from Mexico. Some of the dishes are from China, decorated with the dark, rich shades used by the Indians. He has kept firmly to the bald, primary shades of red, blue, orange and browns. The hangings at the windows are of crepe, dyed a rich orange (by his own efforts) with the juices of sea-shore plants. The dining-room chairs are upholstered with untanned calves' hide.

The crowning touch of originality is in the piano. The dark mahogany of the Steinway grand seemed to him to be a jarring note. It did not look at all like the rest of the room. With such courage as only a man can show, he painted it a rich Indian red! Not a common coat of paint, but a soft, rich sort of lacquer. Not a woman on earth would have ventured so original a trick. It would appear a most shocking absurdity in the ordinary drawing-room, but here, where he has had the joy of doing everything just as he wanted to, it is entirely suitable. The flood of sunlight pouring into the room, the sparkle and glitter from the ocean, seen through them, the barbaric coloring mellowed by the shadows from the high ceiling, the Indian-red piano, with a great, round bowl of sprawling sprays of red geranium, the flame of the open fire, combine to make as cheery, harmonious and original a room as can be found anywhere. It is full of the charm that always comes from a fearless expression of taste. It is a man's picture, his own technique, his own idea of comfort and cheer. It is complete, and left me nothing to suggest in the way of homey contrivances that make for convenience. Never could there be a neater home. My doubts as to man's ability to build pleasantly are stilled for ever.

The Seventh Bungalow

(*Continued from page* 466)

rarest joy of all, a light that is portable and by which you can read in bed. But the greatest benefit we derive from electricity is in having our own water supply. We dug a well in the cellar and installed a pressure tank 2½ feet in diameter and 6 feet long. This is buried under the cellar bottom. The tank holds 220 gallons of water. The outfit is equipped with an electric pump which starts and

stops automatically. We always have an abundant supply of water without ever giving it a thought. As long as there is water in the well and "juice" in the wires we are sure of our water supply. The whole outfit installed cost only $125.00. An electric current is not indispensable and need not dissuade anyone from building in the country merely because current cannot be obtained. A good water supply is possible either with a hot-air or gasoline-driven pump, or even with a hand pump, and with either a pressure tank or an attic tank. Our system is the ideal one because it requires absolutely no attention except to pay the meter bill. The water supply has withstood a temperature of 10 degrees below zero for several days this winter without a single frozen pipe.

There is one point about a bungalow that a housebuilder will discover sooner or later. From its very nature—if it is a true bungalow—it is a structure all on one floor. This method of construction results in a great deal of waste space in the attic. For an average of eight rooms we shall require a foundation, say, 30 by 40 feet. We thus have attic space 30 by 40, which may not look like much on our blue-prints, but when the house is completed we see this enormous wasted space and commence to wonder why we hadn't used that space for second-floor rooms by means of dormer windows, and thus cut down the size—and cost—of our foundations. Well, there are two reasons for it. If we have a second floor we cease to have a bungalow, and such rooms, coming directly under the roof, are always hot. "But, why not raise the roof?" you may ask. That is possible, but then you must bid good-bye to your mental picture of "that low, squatty effect" that the books talk about that will make your house look as though it sprang right out of the ground, and in its place you will probably get something that looks like a cross between a Kansas grasshopper and a railroad signal tower.

It is a mistaken impression that a bungalow is the cheapest form of construction for a given amount of floor space. This is not so. Probably the cheapest type of house is the so-called "L" house, that is a blot on every landscape in these United States. They are entirely lacking in distinctiveness, and are usually built by a man who wears "mail-order" clothes and "mail-order" teeth, and has even bought "plans complete for $2.85" from the same "mail-order" catalogue that supplies all his other earthly needs. No magazine ever publishes an article on "the 'L' house beautiful," and yet it is our typical form of architecture. There are at least twenty such houses in my town, which only has 300 inhabitants. But they cost less than a bungalow, for the reason that the same roof covers two floors instead of one.

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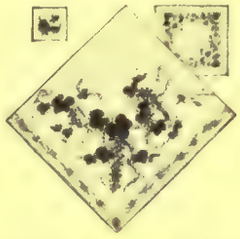
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our bungalow, as the plan shows, but it serves no other purpose than to get to the attic to store trunks and set the mouse trap. We have thought of the possibility of an open-air sleeping-room on the second floor, but experiment proved that during July and August the attic was hotter than the seven hinges on the gates of Inferno. Because of this air space, the rooms below are delightfully cool.

Every home should have an open fireplace. It is the focal center of the whole house, the shrine around which the entire family assembles. Our fireplace was first to be brick and stucco, but I had already built several of that kind for my neighbors. I had also built innumerable field-stone fireplaces of every shape, size and previous condition of servitude. We therefore decided on a "tapestry brick" fireplace, and have never regretted our choice—merely because it is distinctive, not because it is any better.

There are a great many possibilities for individual ideas in a house that will occur to the builder while the house is in progress. To most people housebuilding is a sort of a nightmare, anyway, and the contractor meets every suggestion of a change with a raise in price. A sort of legalized game of poker. When the family finally receives the keys and breathes a silent prayer that the house is at last finished without utter bankruptcy, it somehow always reminds me of that picture of "The Landing of Columbus," where they are all giving thanks that the awful journey is over and that they have even escaped with their lives.

Housebuilding costs are governed a great deal by local conditions. This is not so true of material as of labor. Another point is that the cost of a house is influenced far more by its size than by its shape. If you are anxious to keep down the cost of your house, decide first of all if you can get along without a cellar. If you ultimately intend to use it in the winter and intend to have a furnace, a cellar is a necessity. Otherwise it has but little relative value. Cut out the cellar, and the house should cost $250.00 less.

By referring to the plan it will be seen that a single chimney serves for the living-room fireplace, the kitchen range and the furnace. This is another great saving over the cost of two chimneys. There are two points to remember in a bungalow chimney—to have it higher by at least two feet than the highest part of the ridge, or your range will refuse to draw, and to allow at least twelve square inches in the fireplace flue for each square foot in the fireplace opening. This is not as complicated as it sounds. If the fireplace has an opening three feet wide and thirty inches high it has a surface area of 1,080 square inches. One-twelfth of that is 90 inches, and an 8-inch by 12-inch flue gives you 96 square inches, which is enough.

Magazine house-building articles are

the especial *bete noire* of architects and contractors. I know, because I am a contractor myself. People bring pictures of houses to me that are accompanied by a printed statement that "this house can be built for $1,985.00," when the actual figures will run close to $3,000.00. A friend of mine built from a California bungalow book. He first tried to get some contractor to take his house at the book price, which was in this case $2,200.00. He failed in this because none of the contractors he approached happened to be in business for their health. He then decided that all contractors were robbers, anyway—which has an element of truth in it—and built his house by day's work, buying all of the material and superintending the construction himself. When he paid the last bill he showed me his check-book stubs. I promised never to tell anyone, so I will keep my promise. The total was $3,789.00, and he still had to pay for digging a well. But the book is still smilingly telling someone that "this house can be built for $2,200." Where? Certainly not in any section where material costs real money and where laborers do not merely work because they need outdoor exercise to keep from getting the gout.

The actual cost of our bungalow was $4,500. This included everything—well water supply, cess-pool, grading our lot, making a lawn, planting trees and shrubbery, steam furnace, electric-light fixtures, kitchen range, wall paper, wire screens; in short, a complete house without furniture, except various built-in window seats, sideboard and kitchen cabinets. If you add to this a contractor's profit of 10% and an architect's fee of 5% the cost would have been approximately $700 more.

You can build one like it in your own locality for the same price if the following price conditions are true: Laborers, $1.75 a day; carpenters, $2.50 a day; masons, $3.60 a day; framing timber, such as hemlock or chestnut, $30.00 a thousand feet; shingles, $6.50 a thousand, etc. You can build it for less if you merely want a summer cottage. This should eliminate at least $600.00 worth. Our grounds cost about $250.00 to get into shape. Yours may not cost anything.

We have a large living-room, dining-room, porch for summer or winter use, three bedrooms and bath, also a maid's room on one floor. All the rooms are large except the maid's room—but then, we have a small maid. The house is well supplied with closet space. There are two splendid closets in our principal bedroom. My wife and I each have one. If more houses had this arrangement, Reno would soon become a tank town. The house is remarkably cool in summer and warm in winter. We feel that it is just what we want. If we should sell it to-morrow we should like to go across the road and build one just like it. That is the real test.



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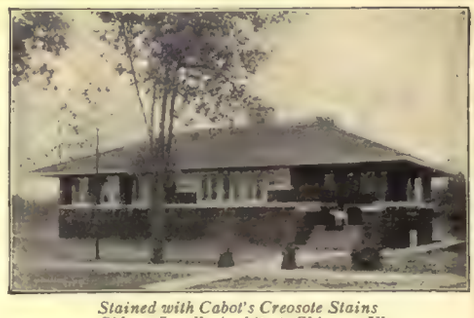
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The Outdoor Living-Room

(*Continued from page* 461)

As the garden is usually rectangular, the house forming one side, there is opportunity for four principal features, axially opposite, one being the entrance from the house, often by a short stairway with its many possibilities of elaboration. One of the other features will often be a gateway, perhaps arbor-covered, leading to other portions of the grounds. Locate this at one side when possible so that something more important, such as a semi-circular pool against the wall, an arbor-covered seat, a garden house or pergola, may be axially opposite the house entrance, with a fountain, sundial or gazing globe in the center of the garden.

These latter three objects are used chiefly to emphasize the central point of a garden at the junction of converging paths. Of these, the former is most pretentious, whether consisting of a pool, with statuary figures, or a fountain basin supported on a pedestal above the pool. Next in importance comes the sundial. A peculiar fascination and sentiment ever clothes this interesting device, and it is sufficiently accurate to mark the passing hours in a really beautiful garden which one dislikes to leave at any time. A sundial of hand-chased brass on a pedestal, often of Pompeian stone of classic mould, may be chosen from the varied stock of many dealers in garden furniture. They are best set on a stepped base of brick or stone, often circular, sometimes square and occasionally octagonal, intended to detach them somewhat from their surroundings.

More recently the gazing globe has come into favor for the central garden position. It is, however, among the oldest of garden accessories. Consisting of a crystal sphere mounted upon a terra-cotta pedestal of Pompeian design, this magic reflector of sky and landscape presents a charming kaleidoscopic picture of everything round about.

Brick or flat stone paths are best, their plan depending upon the arrangement of the garden and chiefly whether the fountain or pool is located in the center or against the wall. With the latter arrangement a paved area nearby provides an attractive spot for garden furniture if large trees shade it, especially during the luncheon and tea hours. Supplementary shade may be provided by a large garden umbrella, if necessary, or one of the picturesque tents of green and white striped canvas. With an arbor-covered seat, a garden house or pergola axially opposite the house entrance, and with a brick or stone-paved area about it, the fountain may well occupy the center of the garden—the principal feature to be observed during luncheon or tea. These features provide their own shade, although over-

hanging trees nearby are never unwelcome and lend a natural charm to the formal arrangement.

The construction of these architectural features and the materials used, of course, should harmonize with the house and wall or fence. Too elaborate design is the chief danger. Benches, statuary, large pots and fountains are to be had in terra-cotta, Pompeian stone and marble reproduced from famous models in the best gardens of Italy. The same may be had in Italian marble at slightly increased cost. Terra-cotta, of course, combines strength and durability with high artistic qualities at small expense. When of that exquisite old ivory tint, it seems to harmonize with any desirable color scheme.

A garden house may, with propriety, be more pretentious than an arbor, sun-room or pergola, the mission of the latter three being to provide a support for vines rather than to be surpassingly beautiful in itself. It is well to remember also that the pergola is of Italian origin, best used in Italian adaptations, its colonial and English equivalent being the simpler arbor of our forefathers—usually preferable for American use. Even so important an accessory as this may be bought ready made for a country carpenter to set up without difficulty. This ensures a pergola or sun-room of correct design and proportion at a decided saving of time and money. Of the several good pergola types, the best is that famous one at Amalfi, consisting of concrete supporting columns and a top of poles. Located across the garden living-room opposite the house, such a pergola may fulfill its true mission by leading from one portion of the grounds to another through the garden, its ends really serving as gateways or entrances to the garden. Again, it may be the continuation of a piazza along one end of the house and extending along one side of the garden, serving both as a side entrance to the garden and to lead beyond into other portions of the grounds or to a street or driveway. Such an arrangement, together with the house, gives great seclusion on two sides of the garden.

The benches and seats already alluded to are to be found in a great variety of shape, size and decorative treatment, with and without backs. They form the year-round furniture of an outdoor living-room and serve to decorate it as do the more pretentious features. The straight bench without back or arms is most commonly seen, usually standing in pairs at opposite sides of the garden beside the border paths. Wall seats are also charming. The bench is usually flanked at each end by ornamental, carved arms, and the wall itself serves as a back. Semi-circular and half-oval seats frequently become parts of the architectural scheme about a fountain pool, sundial, gazing globe or paved area





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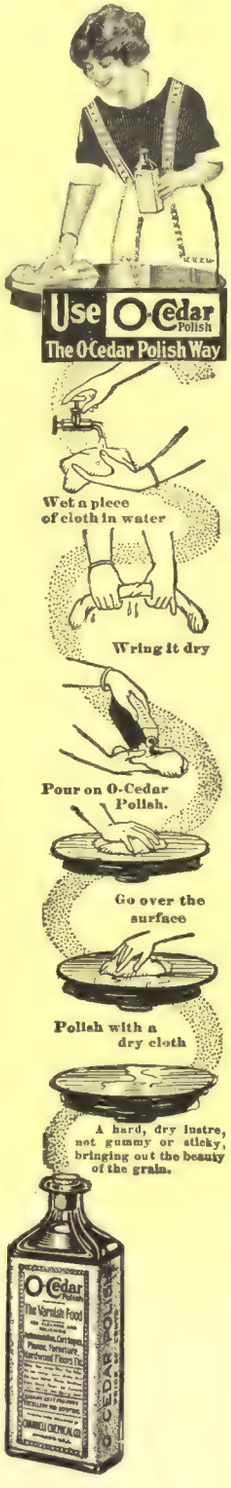
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intended to serve as the actual living portion of the garden.

As supplementary adjuncts, large, ornamental pots of green or ivory-tinted ware containing bay trees or flowering shrubs are useful as architectural units. Placed at the corners and flanking the entrances to a terrace or paved area in the garden they suggest partition walls, define the extent of an outdoor room, and seem almost to bring the outdoors into the house. Not until several potted ornamental plants have been so placed does one realize how singularly beautiful and refreshingly cool the dull, rich green pots themselves can be, or how well they blend, yet contrast, with the varied foliage of the garden. Designs of classic simplicity and attractiveness are to be had to grace any landscape however restricted or extensive.

Quaint Japanese garden accessories, bridges, arches, curiously carved dragons and other figures, cozy-corner seats and other ornamental conceptions, are best restricted to purely Japanese gardens, now much in favor as one of several isolated features of large grounds. More latitude in use may be accorded pagoda-shaped stone lanterns, which are much in vogue for out-of-the-way places, especially in informally treated grounds, shrubbery corners and woodland glades. At dusk during garden parties they present a very pleasing effect when lighted, for they have diminutive oiled paper windows which give out a diffused, picturesque light in accord with the tranquil charm of the evening hour. These lights, seen through the trees here and there, combine with flowering plants to suggest a veritable fairyland.

Coming now to the furniture of the actual living portion of terrace or garden, the tables, armchairs and settees must be of a sort easily moved about as desired, yet of sufficiently sturdy build to withstand any tendency to split on exposure to rain and sun. They may be entirely of wood after the English fashion, or with bent-iron frames, wood table tops and chair bottoms, after the style prevalent in Europe. Old English garden chairs, settees, garden houses, rose arbors, and the like, may be selected from a large number of stock styles of beautiful and varied design at moderate cost. Then, too, there are the charming little French and English lacquer tables and a great variety of chairs. Rustic and old hickory pieces may be used in informally treated gardens, especially under the shade of trees.

In any case, the design should be in accord with the character of the house and garden, and the simpler the better. This applies with equal force to arbor seats, for the arbor portion is intended primarily as a support for vines. Teak or oak are probably the best woods to employ, although well-seasoned white pine or cypress are suitable if carefully and regularly painted. As this furniture



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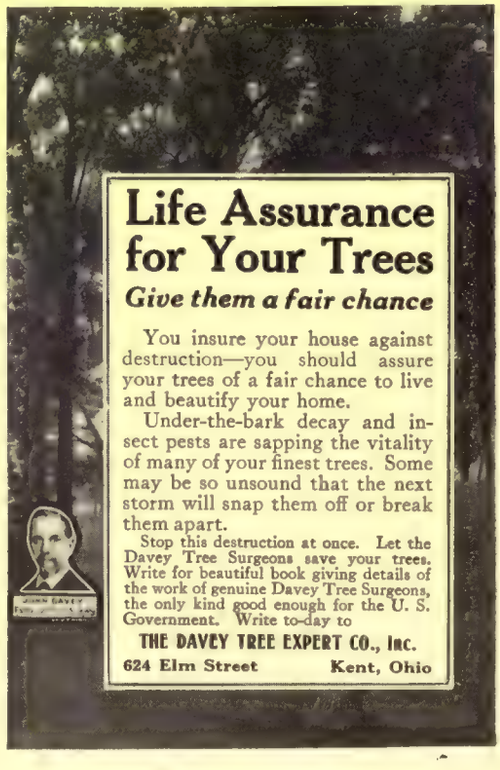
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is brought indoors during the winter, it escapes the worst storms. Green seems to be an appropriate color for garden furniture and wood flower tubs, but there is grave danger that it will quarrel with the varied natural greens near it. That peculiar green hue of the best pottery seems to be impossible to obtain with paints. White is probably preferable, though it looks rather glaring unless care has been taken to provide a constant succession of brilliant flowers nearby to relieve it. Oak or cypress untreated and allowed to take on the silvery gray which exposure to weather will give are, on the whole, the best for an open-air room. Such pieces are especially charming and unobtrusive with natural stone walls and paving.

If there be a garden house, greater latitude is permissible. Because of the sheltering roof it may be furnished like a piazza if desired, with willow, wicker, reed or Canton chairs and grass or wool rugs, of which the variety at low cost is very great.

As to the number and arrangement of furniture pieces for an outdoor room, the principles of interior furnishing hold. A table takes the central position, two settees may well flank opposite sides, with another at the back, unless that place be occupied by a pool, fountain, arbor or wall seat, and two to four chairs complete the picture.

A garden living-room embodying some of the foregoing suggestions, where friends may be entertained informally, and into which the home life may be carried without fear of intrusion, should prove a never-ending source of pleasure and comfort to its owner, making for better health of the entire family and fostering an intimate knowledge and love of all growing things.



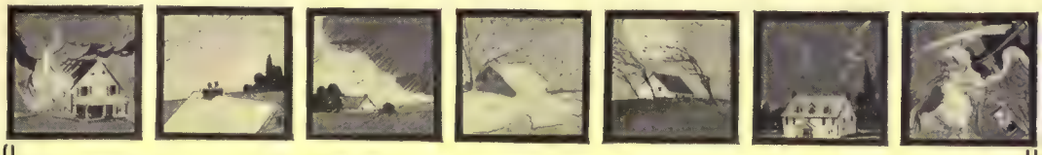
The Problem of the Sleeping Porch

(*Continued from page* 464)

deeply grooved crosswise at frequent intervals to allow water to drain off under the tracks. Even with this precaution, the sash are apt to freeze in place after wet snow has fallen. This type is not as weather-proof as some of the others, but is usually easy to operate if accurately and carefully installed.

There seems to be no reason why the sash could not be hung from overhead track, and guided by metal lugs attached to the sill in the manner sometimes used for street car doors, but the method first described is the one commonly used.

(7) The "casement" type (hinged at side to swing in). This will give fairly good results with narrow sash, but if as



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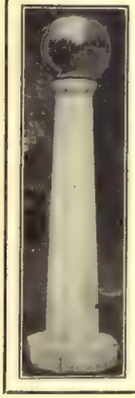
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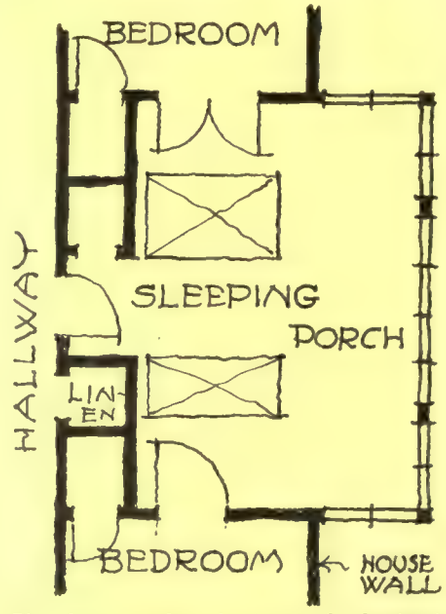
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wide as two feet six, the sash occupy valuable space in the porch, and present besides so great an area to the wind that ordinary adjusters will often fail. If the sash are kept quite narrow they may be hinged together like old-fashioned shutters, and the mullions omitted, but this arrangement must have careful usage on account of the stress on the upper hinges.

It is assumed that outside "whole" screens will be required, so no "swing-out" types of sash have been suggested. If no screens are desired, types (5) and (7) may be made to swing out instead of in, and (7) may be further varied by hanging the sash by the "accordion-door" method from overhead track.



Plan for an outdoor sleeping porch, showing its arrangement with respect to the house proper

Awnings may, of course, be attached to the outside of the main posts in the usual way. Curved forms, either in plan or elevation, greatly increase the difficulty of installing the inclosure, and should be avoided where economy is desired. The same objection applies to corner brackets, strongly projecting post caps and similar features.

A light in the porch will add to the comfort of its occupants, and if a lighting circuit is available, a ceiling outlet, controlled by a conveniently located switch, may be provided. A wall outlet, equipped with cord and *presselle*, to ring a bell in the service quarters, will often be of use. Attempts at heating, on the other hand, are in conflict with the idea of the outdoor life.

Quality Crops for the Home

(*Continued from page* 456)

day and a half or so in a moist, warm place by spreading it out on a piece of damp bagging or cotton, and rolling it up. Then, when ready to plant, mix this pre-sprouted seed with the other. That will give you two chances instead of one of striking the right sort of weather while the seed is germinating. Then, in covering it, be careful *not* to cover it all to the same depth. Scatter the seed and pull the soil over it with a hoe, so that it will be covered from a little less than half to a little over three-quarters of an inch deep. And that will give you two or three chances instead of one again. As two or three plants will be enough for each hill, anyway, it makes no difference about the seed which does not come up. It is much better to make sure of having a few plants than to take a chance on losing or sprouting all of the seeds planted.

In preparing the hill the soil should be only slightly elevated above the surrounding surface unless the soil or the season is very wet. Dig out a space eighteen to twenty-four inches square and put in some very fine manure or some of the compost mentioned above, and *mix well with the soil* before filling the "hill" in again. Make the hills four or five feet apart each way. If one has some of the miniature or "melon" frames at his disposal these may be used and the seed planted a couple of weeks sooner than would otherwise be possible. Very often, instead of being planted in hills, melons and cucumbers, which do not require nearly so much space as watermelons or squash, are planted in continuous rows. In this case, instead of making hills, make a broad furrow the length of the row; put the fertilizer or manure in this, and in covering again ridge it slightly, with the slope to the south a little longer than the other. Then if the seeds are sown or the plants set on this miniature hillside, they get the benefit, not only of perfect drainage, but of a little additional warmth and protection from cold north winds.

In culture, the methods for the various vine crops in the home garden are much alike. If there is any choice as to selection of locality, remember that muskmelons are the most dependent upon all the sunshine they can get. Another cultural direction which applies equally to all the curcubits is not to let a crust form on the soil, either between the hills —where there is a great temptation to let a crust form and the weeds start before the vines begin to run—or on the hills themselves. Sunshine after a hard, beating rain will sometimes form such a hard crust over the hills that the seeds, even when they germinate, fail to push up through it. Should such a rain occur before the plants have come up, see to it that the surface is broken up at once with the fingers or a small hoe.

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Is No Better Than Its Plumbing

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costs only a trifle more than the cheap inferior article on the market. The cost of installation, that is, labor and material required incidental to the installing, is the same for cheap fixtures as for fully guaranteed

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Muskmelons are of two types, as far as color of flesh is concerned—the green-fleshed and the salmon-fleshed. Some people prefer one and some the other. Personally I prefer the latter; but the green-fleshed sorts are as a rule better shippers, and therefore one is more apt to find them in the markets. They also vary greatly in regard to size. The smaller round sorts, with comparatively smooth surface, such as Jenny Lind and Hackensack, are earlier. The larger, oval sorts are sometimes termed cantaloupes, though in some sections this term is used for all muskmelons. They prefer a slightly heavier soil and require a longer and cooler season of growth. There is a new; or "bush," form of muskmelon which promises much for the small garden. It may be planted as close as three feet apart each way. The fruit set close about each hill, and the "vines" are very dwarfed. There are a large number of good varieties of both the green- and the salmon-fleshed sorts. Personally I use Netted Gem (Rocky Ford) for an early, green-fleshed sort, and a few hills of Montreal Nutmeg, which is less certain, but of superfine flavor when the season is favorable for a late. Of the salmon-fleshed sorts, Fordhook and Spicy are the sorts I grow, although Emerald Gem, Osage, Burrell Gem and Paul Rose are all fine sorts. Ripeness is indicated by a softening of the fruit and a change in the appearance of the stem, which cracks at the fruit and separates easily from it. They should be picked then and kept until wanted in a dry place.

The extra-early cucumbers are small and inferior in flavor. For home use there is no better sort than Davis Perfect, a splendid type of White Spine. Where the seasons are very hot and dry it is advisable to make a second planting a month or so after the first to furnish fruits for late fall. The cucumber should always be cut clean and not pulled from the vines; and *all* the fruit should be gathered whether there is use for them or not, if the productivity of the vines is to be kept up. Fruits that get too large may be used for large pickles or allowed to get nearly ripe and sliced or cooked in batter in much the same way as egg-plant.

Of squashes there are also a number of types, such as summer and winter, bush and running. In the small garden the bush summer varieties are very desirable, as very few fruits will be wanted, and these take up very little room.

Either the scalloped or the crook-necked type may be grown. Both, however, should be used while still comparatively young and while the skin or shell is soft enough to be readily indented with the finger-nail. There are a few varieties which are good for both summer and winter use. The best of these are Fordhook and Delicata. The former of these may be had in either running or bush



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form. In a small garden a few hills of any of these may be depended upon to furnish delicious squash almost the whole year round, as any fruits that are not used during the summer may be gathered, and will keep well through the winter. In the way of insect pests, the squash has an additional enemy in the squash vine borer, a large, white grub which develops in the vine near the root and causes the whole plant, even when half grown, to wilt and finally die. The leaves of some of the plants beginning to droop during the noonday heat indicate the presence of the enemy. A careful search will usually locate the exact spot in the vine where he is present, near the base of the plant. A small hole near one of the leaf stems, with a few grains of sawdust-like material, will be a further clue to his presence. With a little practice you will be able to locate his exact position, and then, with a thin, sharp pen-knife blade slit the vine lengthwise for an inch or so, and dig him out. Put fresh earth over the wound and work a handful of nitrate of soda around the hill to stimulate active growth. If desired, the vine may be pinched back after they attain a length of six feet or so, throwing more strength into the laterals and the fruits already formed. Hubbard, Delicious, Heart of Gold and Boston Marrow are all excellent standard varieties. In gathering the fruits for storing for winter the most care must be taken not to bruise them, as spots that do not show at all at the time will develop into centers of decay soon after the fruits are stored, with the result that the whole supply is pretty certain to be lost. A good method is to cut a small section of the vine on either side of the stem with the fruits when gathering. Store in a safe, perfectly *dry* place before danger of a hard frost.

Pumpkins usually occupy too much space and are too little used to be grown in the home garden, but a few hills of one of the table varieties sown in the late sweet corn will add a few delicious pies to the Thanksgiving larder, provided you will keep the squash bugs off until the vines get well started. The small "Sugar" pumpkin has the finest flavor of any of the round, yellow pumpkins. For storing they should be handled in the same way as squash.

Watermelons are easier to grow than muskmelons, but they require much more space and a longer season of growth, and of course do not compare in flavor. For the Northern States the season is too short for many of the best varieties. Sweetheart, an old favorite of excellent flavor, usually ripens a good proportion of the fruits in the Northern States. Halbert Honey is the sweetest watermelon which I know of for planting as far north as I am situated. It matures in about the same time as Sweetheart, or a little sooner, and I now use it in place of that sort.

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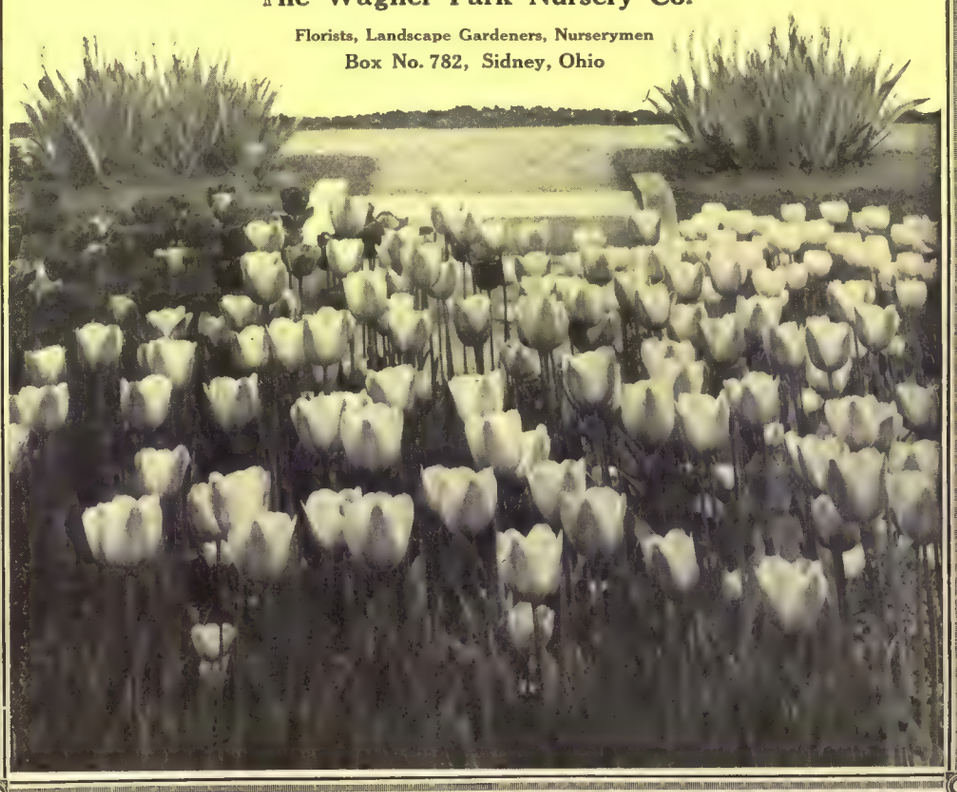
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Makers of SILVER LAKE solid braided clothes lines.

Bringing Summer Into the House

(*Continued from page* 469)

their places those that are light in both weight and color is a matter of little trouble, and yet the appearance of a room is completely changed by the process. So numerous are the varieties of summer floor coverings that it is easy to carry out the color scheme and decorative effect of a room at small expense, or if desired special sizes and combinations of colors can be made to order for prices that are quite reasonable. For excellent service in either first-floor rooms or bedrooms there are probably no better floor coverings than the Scotch art rugs that come in such a wide range of colors. They can be had with plain or figured centers, and well-designed borders and the colors and patterns are so many and varied that it is quite easy to select rugs to go with any draperies and hangings that may be used.

The Colonial rag rugs, too, are deservedly popular for summer use, especially in bedrooms, as they are woven in the most delicate shades of pink, blue, yellow and green, with charming floral borders. They are by no means limited to use on the second floor, however, for there are other rugs of the same weave in rather darker colors, with borders of conventionalized figures or bands in harmonizing shades that are suitable for living-rooms and dining-rooms, while for the room that has a strictly Colonial atmosphere there are the old-fashioned "hooked" rugs that look as if they had been made for a Colonial kitchen and somehow overlooked and never used.

Circular rag rugs in colors suitable for summer use come from Japan, as well as other rugs from the same country that have unusual designs quite different from those of domestic make. Imported from Japan, too, are some jute rugs made of a flax-like fibre and woven in Oriental rug patterns that are wonderfully effective.

The outdoor living-room has become such a universal necessity that its furnishings and rugs are a distinct part of the outfit for the summer home, and the rugs particularly are to be had in almost as many different varieties as those for indoor use. All of these outdoor rugs are made of cocoa-fibre or grass and are impervious to wind and weather. There are plain grass rugs in solid greens and browns, rectangular rugs of cocoa fibre with banded borders, big oval rugs of flag grass with borders formed of an intertwined strand of black, and Chinese grass rugs with checked centers and tesselated Oriental borders. A very ornamental type of these outdoor rugs is a new variety made of cocoa fibre in the most delightful patterns and combinations of colors suggestive of Japanese printed fabrics, and a decided innovation in the way of porch floor coverings.



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If special porch furnishing is to be bought for the summer home, there is no more serviceable kind than the combination of closely woven rattan with wooden frame. Comfortable chairs and settees are made in this style, with the woodwork done in green or in the natural color and finishd with narrow, black bands. Rather more elaborate are the sets of porch furniture made entirely of wood and painted white with green trimmings, or in solid white with a little floral design done in green on the back. Furniture of willow and wicker is, of course, thoroughly suitable for porch use, although care has to be taken not to expose it to the weather if there are upholstered cushions. If special furniture is not desired for the porch, and one wishes to buy chairs that will give continuous use indoors as well, there is nothing more serviceable than the regulation Windsor chair. It is comfortable in shape, can be had at various prices, and after any amount of hard wear in the summer can be done over for use indoors the remainder of the year. For the rustic camp, to be carried outdoors and left without worry, there is the almost indestructible hickory and ash furniture. It is built on good lines and is comfortable.

To make a really livable outdoor room of the piazza, screens or awnings are a necessity unless it is well protected by vines, for there is nothing that has more to do with one's comfort in hot weather than the proper arrangement of light. The shaded porch or semi-darkened room may not be half a degree cooler than the one on which the light beats with full force, but it looks cooler, and imagination has much to do with personal comfort when the thermometer is high. Porch screens come in a wide variety, from the semi-transparent type of bamboo fibre that rolls up to variations of the Venetian blind. This is now being made, the wood strips in alternating colors. Green and brown are the most common colors, however.

Awnings, that add so much to the summer-time appearance of a house, as well as to the comfort of its inmates, should be, without question, a part of the summer transformation of the house, unless it is unusually well shaded. If special designs are wanted they can be made to order, and the conventionalized figures or monograms with well-proportioned borders are stenciled in a dark color on the light awning material with excellent effect. However, for the house in which the scheme of summer outfitting is not elaborate the ordinary striped awnings are quite satisfactory, both as to appearance and service. In addition to the usual assortment of awning materials in different size stripes and a variety of colors, there is a new imported pattern, the stripes of which are quite wide, five inches at least. It is made up in blue,

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green and red, with the alternating stripes of white, and is much more effective than the narrow stripes or those of varying widths.

After all, though, there is nothing that plays so important a part in the furnishing of the attractive summer home as cretonnes and printed stuffs

This use of printed fabrics simplifies to a great extent the question of making a summer home out of the all-year-round house, for if willow furniture is not available or desired, cretonne slip covers can be put on most of the pieces, and the effect is almost as good as if willow were substituted.

As for colors and designs in these materials, one has only to decide on the style wanted, and it is easily found. Cretonnes and chintzes and printed linens show tiny flowers and enormous ones, dainty colors and colors that fairly scream in their endeavors to be unusual and conspicuous, conservative designs and strange-looking patterns that proclaim the ideas of the more modern designers who are striving after something different. Some of these new materials seem frankly hideous to the majority of people, who admit that they are not as yet educated up to their appreciation. Others are not only striking, but decidedly interesting, notably the black and white combinations, and some of the heavy linens that are printed in crude colors; but whether they would bear living with is a question, and the fact that only a master hand should use them is evident.

The English glazed chintzes, with their enormous flowers in the brightest of colorings in white backgrounds, are particularly suitable for summer use, and the hard surface gives them the additional advantage of keeping clean much longer than other materials used for the same purpose. A new use to which these chintzes have been put is in the making of window shades of the ordinary roller type. On account of their large figures, they cut to good advantage for this purpose, and, as they lie flat against the windows, the light comes through with charming effect.

The Summer Cottage

(*Continued from page* 446)

adjoining obstructions. This was done in one case very successfully at Gloucester, Mass. The house was built upon the side of a hill overlooking the harbor at Eastern Point. There were some fruit trees upon the site when work was started, and the writer found that by climbing into one of these trees a beautiful view could be had of the surf breaking against the rocks. Accordingly, it was decided to build an overlooking balcony from the stair landing near the third-floor level



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In another case the lot was located on a point of land extending into the water. A single room built above the roof of the cottage, with a fireplace, and no windows whatever, but only posts at the corners and the space between filled with screens is a most delightful retreat on a hot day. If there is any air at all it will penetrate that tower room, and the steps which lead to it are most attractive. There are shutters outside the screens which pull up with cords to form awnings, and which let down and fasten with hooks when a wind-storm comes along.

If it should happen that the house is to be back some distance from the seashore, and it is desired to make a beauty spot of one's own where the surroundings do not lend themselves to attractive treatment, we may borrow an idea from the Spanish houses, and build around a patio. This naturally implies a somewhat pretentious establishment, perhaps, and always seems a little bit selfish, as though one wished to keep all the beauty to himself. At the same time there are advantages in it. And if there are not rooms enough to go all the way around, the remaining sides can be built in the form of a wall, with rambler roses to grow over it or a high lattice fence to be made the background for the growing of vines. The floor of the patio can have a pool of water in the center, with goldfish and water plants to keep it fresh and to destroy mosquitos. The rooms around the patio will have windows on the side toward the street and on the inside, toward the garden as well, so that there is splendid cross ventilation when the windows are open.

The heating of a cottage is a thing which must be thought of carefully. This can be done by means of a furnace or boiler, or it can be done by a very much less expensive method. All that we need is a "torpedo" stove and some sort of a casing, together with a slight knowledge of heating information. We can set the stove up under the house or on the first floor if necessary and connect the pipe to a chimney. If the stove is on a wooden floor it will be best to cover the wood with bricks laid close together on edge, and then sift sand into the crevices until they are all filled even full. Then build a little room around the stove from pieces of galvanized iron, and stiffen the top with pieces of gaspipe standing on end like columns, with a nail through the sheet metal into the hollow pipe. Cut holes in the top and run pieces of stovepipe or of furnace pipe to the various rooms to be heated or to one large central room. Build an inlet for the air to enter the bottom of the heater, and have this connect near the floor of the lowest room. Then provide for cold, fresh air to enter from out of doors. A damper will regulate the amount taken from outside and the amount drawn off from the rooms. Remember that you cannot force air into a tight room unless



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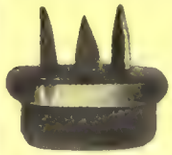
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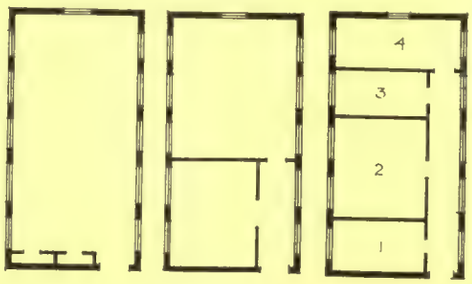


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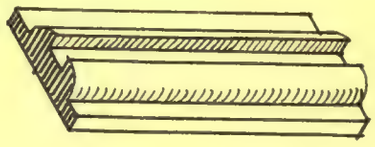
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you draw out some of the air already in the room. But when you allow the cold air to settle into the heater there will be no difficulty in getting the warm air to rise through the pipes into the rooms. A hot-water supply for the bathroom can be obtained from this same source if a heavy brass pipe of ¾-inch iron size proportion is bent around the inside of the stove and connected to a storage tank in the regular way. This will provide all the hot water required by an average family. It is assumed, of course, that there is a supply of running water already piped to the house.

One very effective kitchen designed by the author was at the angle of a summer cottage, as shown in the sketch. The entire cottage except on the south side was surrounded by a porch twelve feet wide, with only a small enclosed room in the center. The kitchen was built of lattice walls on three sides, with copper screening back of them. Window and door openings were built in the lattice, and rambler roses and honeysuckle covered the lattice outside. The cooking apparatus was placed in an alcove where the walls were solid, in order that the



Plan showing arrangement and division of sleeping porch by means of sliding panels



Wooden moulding with groove for sliding panels

wind might not reach the flames or cool the oven. And sliding sash were arranged around the kitchen walls in such a manner that they dropped down into grooves as the sash do in "convertible" street cars. This room was kitchen and laundry combined. The temperature could be controlled easily. If the wind came up from the east and there was danger of taking cold, the sash on one side could be lifted. If the sun poured down on the housetops, the sash were dropped down into their pockets. But, whatever the conditions of the weather, this kitchen was shady and comfortable, and the pea-green paint matched the tendrils of the honeysuckle on the lattice. The sink, gas stove and refrigerator were white enamel, and the curtains at the windows were

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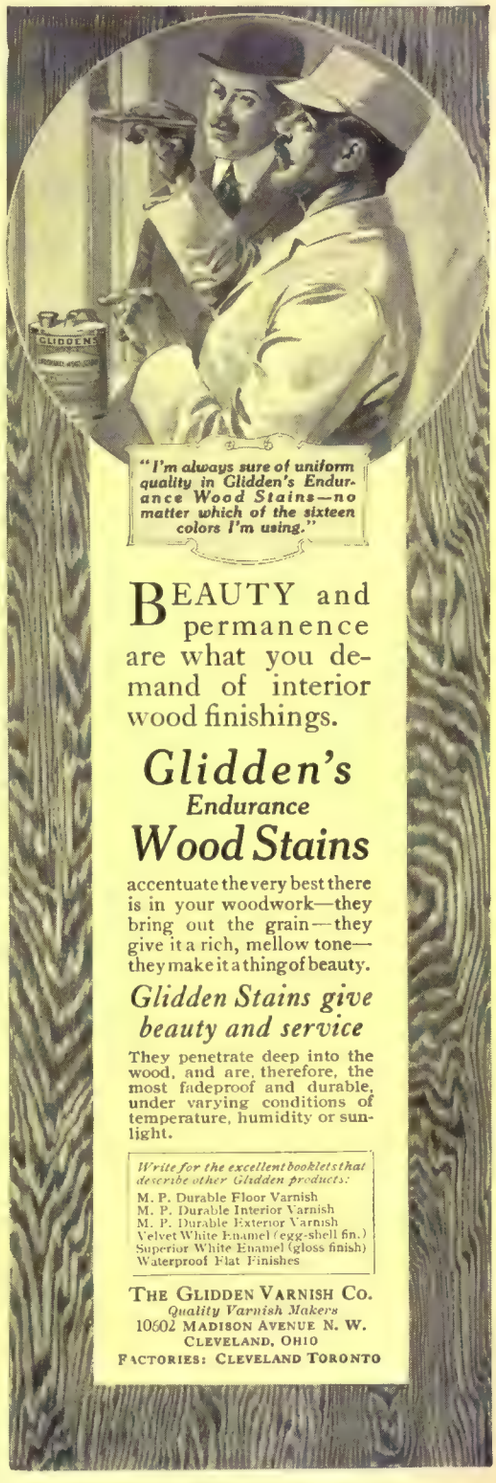
white muslin, with trailing vines stenciled on in green.

In the matter of material, it is best to use a good grade, even if we have to make our building slightly smaller, and it is particularly wise to build those parts near the ground of masonry instead of wood. Concrete piers may be used for the foundations in place of wooden posts, and, if possible, it is better to use a solid concrete wall than to fill between the piers with lattice. The walls may be covered with novelty siding, clapboards, shingles or stucco. And each in order costs a little more than the one before. But, then, good shingles with creosote stain last much longer than the first-mentioned materials, and stucco is practically everlasting.

There is one small item of materials which is always slighted in building a house either for summer or winter, and that is insulation. If people would only invest a few extra dollars in proper insulation for their walls the money would be returned an hundredfold in the way of comfort and pleasure of living. The entire cost of insulation is very slight, yet it is most effective of all the materials which go into a building. It would be a matter of small expense, for example, to lay over the roof boards before shingling two or three layers of insulating quilt or fiber lining. These two materials are used in building refrigerators. The first is a layer of sea grass between paper covers, and comes in large rolls thoroughly quilted. The second is made in the same way, but the filling is hemp fiber. When laid on the roof under the shingles heat of summer and cold of winter are both kept out effectually. If we then provide small windows or openings under the eaves to permit circulation of air there will be a perceptible increase in comfort of living.

Mineral wool is excellent for use. It is not expensive, and may be put between all the outside walls of the house, and the rafters as well, at slight expense. Then, if the exterior of the house is covered with stucco, that is one more safeguard against heat.

There is one thing about the use of concrete at the seashore which should be pointed out here, and that is the relative cost—as compared with its use inland. Good concrete for building is made up of one part cement to from four to five parts of sand and gravel. This grit should be sharp and clean, or free from loam But it should not be too fine. Sand and gravel from the beach is generally thoroughly washed and free from loam, and if it is coarse enough will make the best kind of concrete or stucco. So that under suitable conditions its use at the seashore is a real economy, particularly when it is convenient to bring cement to the site by boat.



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4 ft. long...	60	1 00	2 50	4 00	7 50

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	12	100	250	500	1,000
6 ft. long...	$0 60	$1 00	$2 50	$4 00	$7 50

EXTRA-HEAVY BAMBOO STAKES
FOR DAHLIAS, young trees, POLE-BEANS, TOMATOES, etc.

	12	50	100
6 ft. long (diameter ¾ inch up)	$1 25	$4 00	$7 00
8 ft. long.....	1 75	6 00	10 50

H. H. BERGER & CO., 70 Warren St, New York

What You Should Know About Curtains

(*Continued from page* 448)

upholstery purposes. There are also damasks galore, and delightful velours and velvets and many other materials which go by different names, according to the shop in which they are bought. The list is too long to mention all, but what I wish to make clear is that one should look the ground over very thoroughly before selecting, for among some of the new weaves may be just the one thing needed to carry out the scheme one has in mind. The style of furniture and the color scheme must, of course, be the deciding voice in selecting patterns. There are beautiful ones to harmonize with Georgian or Colonial furniture (which are the same general style), many that harmonize with Empire furniture (which is incorrectly called Colonial by many people), French furniture, willow furniture, mission furniture, all have fabrics quite beautifully suited to their needs. There are many Modernist designs in the shops; many of them too dreadful in both color and design and quite impossible to use where harmony and beauty are valued. There are a few, however, of real worth which could be used in bungalows and camps and rooms where one does not have to spend much time, but the color scheme must be very carefully thought out or you will find them jumping from the walls in a most alarming way. If one can change hangings and furniture coverings often one could use them for the sake of a new sensation, but I am certain that beyond six months one could not stand them. It is a fad which will be taken up violently by people who prefer novelty rather than good taste, and they will naturally choose the more startling designs rather than the few good ones. Among these last are some designs with lovely blues and orange and greens, colors which work in well with the dark tones of mission furniture and go well with the ever-useful willow. It is needless to say that they are quite out of the question with any of the great period styles of furnishing.

In making curtains, care must be taken to have the measurements exact and the pattern placed so it will match in the different curtains around the room. There is nothing which will spoil an otherwise well-planned room more than the haphazard making of curtains. Very large designs are cut to pattern in the shops, and there will often be waste in the making. The left-over pieces, however, can be used for cushion covers. Small or medium designs are more economical to use. When the material is chosen, calculate the amount needed and allow the length of a repeat for each pair of curtains when there are only two widths used, and also for each valance. The curtains may be such a length that more may be needed. Allow a three-inch hem

Song Birds Will Live In Your Garden

My free illustrated booklet tells you how to attract and make friends of native birds. I have hundreds in my garden every year. Don't you want bluebirds, wrens, purple martins, flickers, etc., living near you?

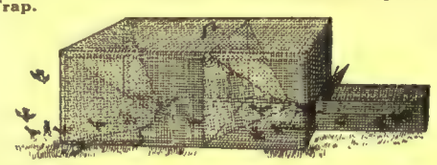


Here in one garden—I've drawn a circle about each—are five Dodson Bird Houses, one Sheltered Feeding Table and one Bird Bath. Hundreds of beautiful birds live in this garden. The houses in the photograph are—

The Dodson Automatic Feeding Table for Birds. Price, with 8-foot pole, $6—all-copper roof, $7.50. Size, 24x22x12 inches.
The Dodson Great-Crested Flycatcher House. Price, $3, with all-copper roof, $4. Size, 15x11x8 inches.
The Dodson Bluebird House—Solid oak, cypress shingle roof, copper coping. Price, $5. Size, 21 inches high, 16 inches in diameter.
The Dodson Tree-Swallow House. Size, 12x14x9 inches. Price, $3; with all-copper roof, $4.
The Dodson Cement Bird Bath. 32 inches high; basin 34 inches in diameter.
The Dodson Wren House. Solid oak, cypress shingle roof; copper coping. Price, $5.
The Dodson Purple Martin House. Three stories; 26 rooms and attic. Over-all, 44x37x31 inches. Price, $12—with all-copper roof, $15.
All prices are f.o.b., Chicago.

I have 20 different Houses, Feeding Tables, Shelters and Baths—all for native birds—prices, $1.50 to $70. Have been building Bird Houses for 18 years.

Get Rid of English Sparrows. They are enemies of our native birds. Set out a Dodson Sparrow Trap.



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If there is any question you want to ask about attracting and helping our native birds, write to me. I'm glad to help any one who loves the birds.

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701 Security Bldg., Chicago, Ill.
Mr. Dodson is a Director of the Illinois Audubon Society.

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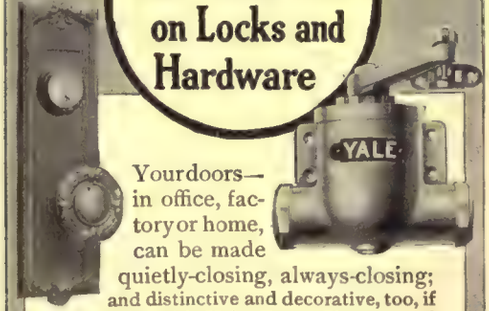
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and a six-inch turnover at the top if they are to have French headings. If they are to run on a rod, make an allowance sufficient to slip with ease. Designs are not always printed evenly, so the curtains cannot be cut by a thread or the pattern would go uphill and down dale. When the curtains are cut, the hems at the sides and bottom should be turned and pressed. If the curtains are not to be lined they can be hemmed at once, but if they are to be lined and interlined the hems should only be pressed at first. A very large table makes curtain making much easier, for one can mark off the length of the curtain on it and so get the bottom, sides and top at right angles, so the curtain will hang true and straight. If the curtain is to be eight feet long when finished, a line eight feet from the top of the table must be drawn across it. To this line the bottom of the curtain is pinned, face down, the side edge running close to the edge of the table. The curtain must be carefully smoothed and the top turned over so it comes exactly to the top of the table and pressed. This gives a true size for the curtain, and if care has been taken to have the measurements correct the curtain should be true. When this is done the interlining should be put carefully in place on the curtain. It should fit close to the creases for the hems and be cat-stitched around the edges. It should also have four rows of knot stitching through the curtain, the rows to be about ten inches apart and the stitches about six inches long. The stitches must not be drawn too tight. When this is done, turn the side and bottom hems in place and cat-stitch them. The side hems should be narrow.

Have a piece of lining, hemmed and put in place, the hem an inch from the bottom of the curtain, and then blind-stitch the lining to the curtain along the side. Put a row of pins about ten inches from the edge of the curtain, turn the lining back to them and knot-stitch the lining to the interlining. Turn the lining back, put in another row of pins, and continue the process until the other edge is reached, which must be blind-stitched to the curtain. Turn the top hem and baste. If French headings are to be made, the top edge must be divided into even spaces, leaving a margin of two or three inches at both sides. French headings are groups of three pleats sewed about three inches from the top on the back of the curtain, caught through the center at the front, and again at the top at the back. The hooks, or rings, should be sewed on at this time, the right calculation for their position being made, and there should be plenty of them to keep the curtain from sagging. Valances should be made in the same way. If there is not a large table one can use, the next best thing is the floor, but that method is hard on the back and knees! The bottom of the curtain must be



A Skeptic Convinced

NOTHING is more convincing than the frank testimony of the man who "gives up to the logic of actual experience."

The picture above shows the residence of Mr. John W. Slauson, of Middletown, N. Y. It speaks well for the strong points of

Vapor-Vacuum Heating

Trade Mark Registered

Kriebel System

that Mr. Slauson should install this system in his new home, even though unconvinced that it would do ***all*** we claimed for it. His experience is given in the following letter.

MIDDLETOWN, N. Y., 64 Grand Avenue
Feb. 28th, 1914.

VAPOR-VACUUM HEATING CO.,
Philadelphia, Pa.

Gentlemen:

I want to express to you **my entire** satisfacti n with the operation of my heating plant this winter. It has "stood the test" and comes out winner. I took nothing for granted and I am free to say that I did not expect it would do some thin s claimed for it. But I give up to the logic of actual experience. The absolute noiselessness of the system is also a great factor and is highly appreciated. I will say that if I had been disappointed in the outfit, the disappointment would have been great and you would have heard from me in no uncertain way. Now that I am **greatly pleased,** it is only fair to say so, as I am glad to, without any reservation whatever.

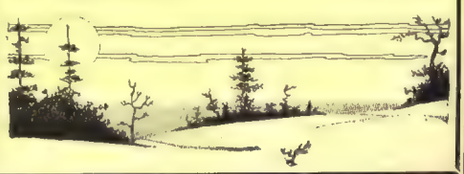
Yours very truly,
(Signed) JOHN W. SLAUSON.

One feature Mr. Slauson does not happen to mention in his letter is our guaranteed 25% saving in coal.

Our book on heating explains this and all other features of V. V. Heating in simple, non-technical language. Tell us where to send this book to-day. No obligation, of course, so write before you forget.

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You don't want to miss this great offer. The doll set is the cutest doll furniture you ever saw, and the most durable. You take no risk in ordering. If you prefer, you can have instead of doll set, the foot stool, shown with the doll furniture and also valued at $1.50. We guarantee satisfaction or money refunded. Order porch set and doll furniture today.

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Catalogue No. 14 illustrates and describes other types of engines and pumps Sent free

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pinned close against the wall and a crack chosen to represent the edge of the table. The top of the table must be represented by a chalk line. If the curtain is not to be lined, but is to have French headings, put a piece of stiffening under the top hem. If it is to be run on rod, turn the hem the desired width after it is properly headed up, and sew it across by machine. Shaped valances are made on very heavy buckram and are almost too hard work to be done at home. The shape is drawn upon the buckrum and then cut out and the material mounted on it and then lined. Trimming should always be put on by hand, as a machine is apt to draw it.

Curtain making is hard work, but it can be done at home if care is taken with the sewing and measuring and heading up, so they will hang correctly.

The Emergency Garden

(*Continued from page* 471)

a great boon to the delinquent planter. Will grow in the driest soil, spreading its yellow, orange and red flowers over a considerable extent of ground. It is splendid for carpet bedding and does particularly well at the seashore. The foliage is succulent moss green of a peculiar but interesting sort. Rose moss, as it is known, is desirable for rock planting also. Another value is that clumps of it may be taken up when blooming and placed in other sections of the garden that have become bare. An easy way of sowing is to mix the seeds with soil and scatter over tilled beds. Otherwise, simply sprinkle the seed on top of the soil and rake over the bed.

Salvia.—The red spikes of salvia are particularly effective during the summer months and add a touch of brilliance that cannot be filled by many blooms. If sown in June they should be in full bloom by the end of July and can be kept in blossom until frost.

With a groundwork of these rapidly growing annuals we should by no means neglect certain bulbous plants that are of rapid growth. Chief among them is the gladiolus. It would be futile to attempt a description of the wonderful shades and colors of these waxy, lily-like flowers on their straight spikes. The bulbs may be set out early, and weekly sowings made for bloom all summer, but a good effect can be had if this process is begun as soon as possible and continued until the end of June. Gladioli are gross feeders, and should be given doses of liquid manure during growing season.

When you have made your plan for the things sown in the ground there are opportunities for garden planting that will give you immediate effect.

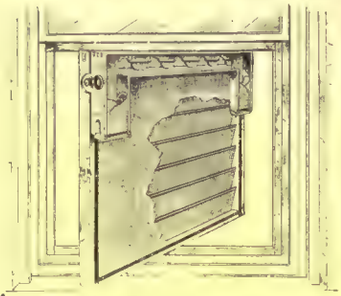
There is, first of all, the geranium. You have probably become tired of it because you have seen the brick-red sorts that bear no name. Ask for named varieties, stating the purpose for which

(*Continued on page* 508)

The Casazza

Fly Trap Screen

Scientists Warn You Against the Terrible Disease—Spreading Fly—and Public Health Demands Protection!



A perfect screen for doors and windows, and a sanitary fly trap combined!

Ideal for homes, offices, hospitals and institutions

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Catalogued in Sweets', Page 1303



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The sort that both confines and amply protects your flock.

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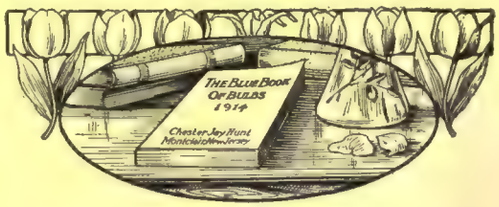
Your choice for $1.25. The three of either group for $3.50. Parcel Post, prepaid, except outside of second zone add 10 per cent. to amount of your order.

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A brilliant story of New York's mad dance after pleasure and wealth. Through hotels and cabarets, ballrooms and country houses, by motor and on yachts, on the backs of blooded horses; eating, drinking, making love, beautiful young girls, women who still try to be young, and the men of their gay set, follow each other in feverish haste, with no brake to hold them back except the fear of "what will people say?" But the piper waits to be paid. *Illustrated. $1.35 net.*

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For Better Flowers Plant Quality Bulbs

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For TULIPS NARCISSI HYACINTHS

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QUALITY BULB CO., 825 C. of C. Bldg. Rochester, N. Y.

(*Continued from page* 506)

you intend to use them, and make a selection to be planted in a bed just as you would other flowers. You may get some of the oak-leaved, scented sorts or the pelargonium, with great blossoms shaded beautifully. Here are some tried varieties of the single sorts:

Alphonse Ricard, bright vermilion; Beauté Poitevine, salmon pink; Mme. Recamier, a pure white; Marquise Castellane, a double-toned red; S. A. Nutt, a dark scarlet crimson. The single sorts may be had in light colors with large blossoms. There are ivy-leaved geraniums and variegated sorts, the best of the latter being a dwarf, Mme. Salleroi. But above all, with your geraniums, do not set a circular bed or geometrical pattern in your lawn and arrange the flowers.

Do you know the tuberous begonias well enough? Here is a rich boon for the one who has to start late. The begonias are stocky plants, 12 inches to 15 inches usually, with interesting, shiny leaves. The flowers are great, waxy blossoms that grow sometimes 4 inches to 6 inches across, and are wonderfully shaded through the whole gamut of colors, from pale white through yellow to scarlet. What is more, they will bloom in the shaded parts of the garden. Do not confuse the tuberous begonias with the greenhouse begonia. You will find now that the tuberous sorts are not at all difficult to grow. They require a rich but fine soil in good cultivation, and demand plenty of water. Be sure that this is added after sundown. Use the tuberous begonias before a group of ferns or before the broad-leaved evergreens that are past flowering, or you can make a single border of these plants.

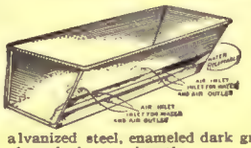
The summer house that is rented is usually dreadfully bare close to the porch and in the beds adjoining the entrance. You may fill in corners by a judicious use of the castor bean plant and a careful selection of cannas. These plants should be used carefully in such a situation, and by no means should they be planted in stiff rows. The castor bean grows very rapidly and will give a growth of interesting green that will cover up many unpleasant bare spots. It is recommended for this purpose only on account of expediency.

The castor-oil plant and caladiums are best used by themselve away from the house. A corner of the garden could be improved by them, planting them in a naturalesque manner and getting the full effect of their exotic appearance. The newly improved forms of cannas give color to the tropical foliage of the leaf plants. Remember that cannas may be had in a variety of colors—pink, white, yellow, crimson and scarlet and with bronze as well as green leaves. A very striking effect could be made by using these rapidly growing plants to shut off

(*Continued on page* 510)

The Box That Makes the Plants Grow

If You Are Interested in Plants



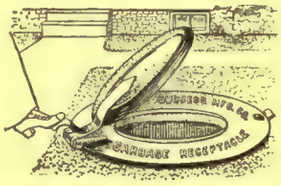
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March 29th, 1913.

(*Continued from page* 508)

a view, to act as a boundary in a certain corner of the garden, and to produce a strong note of color.

There are some other common plants that are always to be had wherever you are, and yet are effective with the materials already mentioned. There is the bright bloom of the heliotrope as a border plant and for combinations with alyssum, for instance. Petunia seedlings may probably be bought from a neighbor or a local gardener and from the nurseryman. Neglect the ugly magenta shades. You will find that under the named varieties wonderful pinks, wonderful fluted blossoms that will make a fragrant border in the summer. Asters, pansies, violas and salvia are other reinforcements to the later garden that may be had as plants, even as late as the first week or two of June. You will find that with these materials you can lay out a garden that will be almost as successful as though you had planted it all with seed and it came up blossom after blossom.

One other suggestion is the Rochia, or summer cypress. You should be able to get plants ready to set out that will make a hedge within a few weeks. The plants grow into trim, oval bunches of delicate cosmos-like foliage of a deep green. This turns to a bright red by fall. Set plants about two feet apart.

Probably the most successful enemies of bareness are vines. There are some very rapid-growing vines that will cover an ugly wall of the house or wind over a pergola or shade the porch if you plant seed. Here are some successful sorts:

Cardinal climber will grow rapidly from seed, and climbs to twelve feet, while a single plant has a spread of about four feet. Its leaves grow close together and are attractive in their deep lobes. The flowers are like tiny morning glories, except that they are a bright scarlet. You may purchase either seeds or plants.

Scarlet Runner Bean.—This plant will give a thick covering of green leaves six weeks after seed planting. Its foliage is very much like the bean, and the fruit is similar to the ordinary bean, except that it is of a brilliant scarlet color that contrasts well with the light green of the leaves.

Hyacinth bean is a similar plant, except that it has rather large, purplish flowers followed by purple pods.

Balloon Vine.—For a light foliage plant to grow from seed there is the balloon vine. It has inconspicuous white flowers, but peculiar fruit clusters of tiny green that look like tiny balloons. It is a very rapid grower.

In addition, there are the morning glories and moon flowers, which will grow quickly and are always pleasing.



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